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THE GENESEE FARMER:

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D. D. T. MOORE, PROPRIETOR.

DANIEL LEE, EDITOR.

P. BARRY, Conductor of the Horticultural Department.

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Western New York Agricultural School.

THE undersigned is happy to announce to the farmers of Western New York that he has made arrangements with Gen. RAWSON HARMON, by which that gentleman and the EDITOR of this paper will be united in a joint effort to teach both the Practice and the Science of Agriculture. The SCHOOL will be opened for the reception of pupils on the first of May next, at the residence of Gen. H. in Wheatland, Monroe County, N. Y., to whom, or to the undersigned at Buffalo any communication relating to the subject, can be addressed.

The farm contains 200 acres of improved land, which is under excellent cultivation. Gen. H. has now sown over *fifty* distinct varieties of Winter Wheat, all of which will be subjected to accurate scientific experiments by the writer of this, during the coming season. It is believed that great and valuable improvements can be made in the culture and development of this bread-bearing plant. It remains, however, to be demonstrated, that one third of the labor usually expended in growing a bushel of this grain is wholly lost to the farmer, and the world, by its misdirection, or unwise application. We now use too much of some things, and too little of others. The culture of Spring Wheat, Corn, Barley, Peas, Beans, Oats, Clover, Potatoes and other roots, on strict scientific principles, with a view to *lessen* the cost of their production, will receive particular attention. *Where* the things come from that make these great staples, and *what they are*, will be carefully studied.

Great pains will be taken to ascertain what animals furnish the most profitable *living machinery* for changing grass, grain, roots, straw, &c. into milk, butter, cheese, beef, pork, mutton, fat and wool. To impart a thorough knowledge of the Organic Structure of all this machinery, and of the office or function performed by each Organ, there will be minute dissections of all domestic animals. A MUSEUM, illustrative of the Anatomy and Physiology of all the living things which the farmer labors to produce, and keep in a healthy condition will also be formed. Lectures will be given in these departments of natural science, and no pains will be spared to render their study both interesting and truly useful. Work in a Chemical Laboratory for the analysis of Soils, Manures, Fertilisers, and all Vegetable and Animal substances, will form an important department in the school. Lectures will be given in this branch of science with the view to prepare Teachers of Academies and Common Schools to introduce the study of Agricultural Chemistry into these seminaries of learning. A suitable Text Book, and a cheap Apparatus for the use of school teachers and private gentlemen have long been in a course of preparation by the undersigned. Agricultural Geology will also be taught. A full course of study and practice will occupy four years; during which the pupil will be required to keep in his own hand writing a journal of his studies and progress, and an accurate debit and credit account of all farm operations. He will be charged for his board and tuition, washing &c., and credited at a fair price for whatever service he may render on the farm. But we can not promise *work* and *pay* for all that may offer. The object of the proprietors of this school will be to turn the labor of young men to the best possible account, and to give them the full benefit of their skill and industry.

The price of board, washing, lodging, lights, and fire-wood, will be from $1 50 to $2 00 per. week. Tuition from $8 to $12 per quarter.—

This will include instructions by Gen. H., as well as the Editor's lecture fees.

Gen. HARMON'S farm is regarded as admirably adapted to the establishment of such an institution. He turns off some 1500 bushels of superior seed Wheat, every year, beside considerable seed Corn, and between 45 and 50 fine wooled bucks. As a breeder of Sheep, he has few equals in the country. His facilities for soiling, or for keeping up sheep, cows and swine, can be estimated by practical farmers when they are informed that his basement rooms, walled in with stone laid in lime mortar, cover an area of 8916 square feet—or more than the whole basement surface of *seven* 30 by 40 feet barns.

The late census returns show that Monroe County grows more Wheat than any other in the State, and more bushels per acre; and that *Wheat*-land produces more, per acre, than any other town inthe County.

There is a beautiful natural pond, or lake, partly on the farm, the outlet of which is sufficient to drive a flouring mill. The shores of this sheet of water are covered with shells and shell marl, which are admirably adapted to bring up the land, with a few other fertilizers, to a high state of productiveness.

Horticulture and Fruit Culture will not be neglected at this school.

Pupils should have a good Common School Education before they enter the Institution. If it shall be found desirable, competent tutors will be employed to teach the Languages and Mathematics. Assistants, if necessary, will also be engaged to aid in teaching Geology, Chemistry, Botany, Comparative Anatomy, Physiology, and Meteorology. It is contemplated to have but few students; and to pay particular attention to their attainments, morals and habits. But should the Legislature ever deem it worth while to aid a little in making scientific farmers as well as scientific doctors, it is hoped that under a charter and board of Trustees, this may become a State Agricultural School.

To express our present views in brief, we copy a resolution adopted unanimously by the State Agricultural Society, which was offered, some years since, by the undersigned:

"*Resolved*, That this Society regards the establishment of an Agricultural Institute and Pattern Farm in this State, where shall be taught, *thoroughly* and *alike*, the SCIENCE, the PRACTICE and the PROFITS of good husbandry, as an object of great importance to the Productive Agriculture of New York." DANIEL LEE.

WHAT THE FARMER CANNOT AFFORD TO DO WITHOUT.—It is an agricultural journal. The moment he drops that, he may expect to fall behindhand, at least in the knowledge of the age and all good improvements in agriculture. Can the farmer afford to do this? No, he cannot.

Teach One Another.

THERE is no class in the community that so much neglect to instruct each other as do the cultivators of the earth. It is true that their condition in life does not bring them into social contact to the same extent enjoyed by mechanics and artisans, who mostly reside in cities and villages. The latter can more easily establish and keep up their Mechanic's Associations, Libraries, and other contrivances for mutual improvement. They can step into a public lecture room one or two evenings each week, and hear the principles of the mechanical arts discussed by the ablest in their ranks, with little trouble, and signal advantage. Can those that follow the noble pursuit of Agriculture do nothing in the way of teaching one another? Can not 20 or 30 farmers be found in every town in the State who are willing to unite their efforts to advance the cause of Rural Industry, by establishing an Agricultural Club for that purpose? Will a few hours once a month, or even once a week, devoted to collecting and diffusing knowledge on agricultural topics, be time wasted, because *all are too wise* to learn any thing from others? For what purpose was the power of speech, the gift of reason, and the love of social intercourse conferred on man by his Maker? Suppose God had restricted the knowledge of each human being to his own personal experience in the world, what now would be the condition of our race? What riches can compare with those of the Intellect, where the very effort to give away what one possesses, increases the treasure of the giver! A man may add ten fold to his own knowledge, while laboring to impart wisdom to thousands of others. Teach one another, and you will form habits of close observation, and become familiar with the operations of Nature, in the production of plants and animals. Their multiplication and improvement will be studied and understood. Let each member of the Club pay fifty cents or a dollar, as an initiatory fee; and something more quarterly, to build up a Library of standard works in the various departments of Agricultural Literature.

Should not a Nation of Farmers develope intellect enough to have a literature of their own? What other pursuit in civilized life, is so admirably adapted to foster clear and just thinking, pure and noble impulses? Where can be found a field so broad, so rich, so inviting, so lovely in every aspect, for the display of varied learning and profound scientific attainments, as is now presented in the Agriculture of this extended Republic? Blind is the intellect, and contracted the ambition that now rejects all the advantages of a good agricultural education, for the cares, the struggles, the contentions, and probable failure, which will attend the young man that forces himself into the profession of Law or Medicine. We would not speak disrespectfully of any pursuit or class in the community. But we know

that thousands of generous youth are mistaking their true interest and calling, by turning their backs on the noblest of all professions. A mistaken public opinion leads them on to increase the present lamentable excess of those who are trying to live by their wits. All this is wrong; and although the evil will eventually cure itself, yet thousands of worthy and most estimable young men will suffer to the end of their lives, for the folly of the times. These ambitious sons of farmers and mechanics should be gratified with a good education. They should have every advantage of learning, every facility for the acquisition of science, that the country can afford. They are the ones to develop an Agricultural Literature in America, which shall confer incalculable benefits on the human family. Rural Labor must be redeemed from the protracted and excessive toil of dull ignorance. If man is to be elevated in this republic to that exalted destiny which his Creator has placed within his reach, and bade him to attain, he must ennoble the skillful culture of the fruits of his mother earth.—This can only be done by the common effort of the agriculturists themselves. If *they* will not lend a helping hand, then will they be justly doomed to the task of giving two or three days work for one, as hewers of wood and drawers of water for others all their days. It was a wise maxim of Dr. Franklin, which held that "God helps those that help themselves." Let us then, one and all, place a willing shoulder to the wheel. One generous lift will put the car of agricultural improvement on the right track. While the rest of the community travel at their ease, drawn by steam, controlled by science, we shall look *rather simple* to insist on walking at a snails pace, and carrying a heavy knapsack, because our fathers did so forty years ago!

A little agricultural enterprise will make far greater improvement in tillage, wool growing, and the dairy business, than any yet witnessed in the construction of rail-roads and canals. These are necessarily local in their benefits, while the advantages of science can be extended to the fire side of every log cabin in the State. Even a fifty cent journal, devoted to the record of all the discoveries of the age in Agriculture and Horticulture, if taken by every farmer, can do much to improve both the soil and its cultivators. We solicit a report of the proceedings of Town Clubs; and hope to hear of the formation of hundreds during the present winter. Remember that strength—all subduing strength—lies concentrated in *union*. No one man can build a canal, or a rail-road. All great works must command the united labor of thousands to give them success. Think of the hundreds of thousands of political papers and pamphlets circulated to elect a President! What is the labor of *one* man in such an effort? Tell us candidly, are party politics every thing, and agriculture nothing, that we should give millions for the advancement of the former, and treat the latter with utter indifference?

Farmers, is this right? Is it just toward the most important interest of the Nation? You know it is not. Then TEACH ONE ANOTHER, and all unite in making the GENESEE FARMER what it should be, the most extensively circulated paper in the Union. A copy should be placed in every Common School Library in the State. Why not? Is its reading unworthy of the perusal of the rising generation? Who will refuse to aid in elevating the Mind that must ever fix the common level of a profession that has the highest claim to our best regards? If it were possible for us to accomplish this object *alone*, we would not ask for the co-operation of others.—But, kind reader, without your assistance our best efforts will be labor spent for naught.—Nothing truly important, affecting the community at large, can be consummated, where the people are sovereign, without their countenance and support.

Insects Injurious to Vegetation.

DR. ASA FITCH of Salem, Washington Co., in this state, is writing a series of valuable Essays on the "Insects Injurious to Vegetables," which are published in the Quarterly Journal of Agriculture. We have received from the Author, No. 3, on the "Wheat Fly," which we have read with much interest. Fortunately, as yet Western New York has suffered but little from the insects, whose ravages have been so destructive in the eastern portion of the state. But we may not long be so highly favored in this regard; and it is well to learn what we can from the sad experience of our eastern brethren, as to the best methods of abating the evil. Our Wheat crop is too important, not to take especial pains to secure it from the depredations of these minute, but fearful destroyers, if possible. The farming community are greatly indebted to Dr. FITCH for his careful researches in this matter; and we shall endeavor to furnish our readers with a faithful epitome of his writings on entomology, so far as they appear to be more useful to agriculturists than any equal amount of other reading.

The auther has well illustrated with Colored Engravings, the insects, larvæ, &c., which he describes.

WEEVIL.—We received from Gen. HARMON, some three months ago, about a gill of a new variety of wheat which was imported from Spain the past season, from which have emerged fine dark brown weevils. The insects are now feeding, when not torpid, on the grain. The wheat has been kept in a glass vial, and stopped with paper.

We suppose this insect to be the *Curculio granaria* of LINN; *Calandra granaria* of Dr HARRIS.

From the N. Y. Journal of Commerce.

The Northwest.

The census of Illinois, as far as returns have been received, shows a very rapid increase in population since 1840. The increase in that State will exceed 200,000 in five years. In fact, the increase in population will equal that of the State of New York within the same time. Judging from the returns already made, Illinois now contains over 700,000 inhabitants. The returns from the General Land Office show that over 300,000 acres of government lands have been sold in Illinois within the last eighteen months; and the probability is that a much greater amount has been sold to actual settlers by non-resident land holders.

These facts show that a very prosperous period is dawning upon the hitherto darkened fortunes of Illinois. Her canal is advancing rapidly to completion. Immigration, as shown by the returns of the census, is pouring in upon her. The crop has been an abundant one. Her farmers are getting good prices for their produce. The new apportionment to be made this winter, will give to the Northern part of the State—the debt paying part—the entire control of the legislature; and aided by the abundant yield from her very rich and productive soil, Illinois in a short time will be enabled to pay the last dollar of her public debt. Indeed, if her affairs are administered with common prudence, she will soon be one of the richest and most prosperous States in the Union. The returns of the census of New York show that the Agricultural districts of the old States are decreasing in population, while the returns from Illinois show a very rapid increase. The same change which supervened on the completion of the Erie Canal, between the North River counties and the Genesee Valley, must soon take place between the Atlantic and the Western States. The decrease in population, in the last five years, in the counties of Genesee, Ontario, Cayuga, and Oneida, in this State—all grain growing counties—proves that this change is already taking place. Nor is it a matter of wonder, when we compare the prices of land, and the facilities for cultivation offered in the two sections. In this State, land that will grow wheat is worth from $40 to $60 per acre—in Illinois it can be bought for $1 25. In this State the land requires very careful tillage and expensive manuring; in Illinois the soil is so rich that it is cultivated for many years without the least manuring, and being free from stones and stumps, it is cultivated with the greatest ease, one ploughing being sufficient for any crop, while here, in some cases, three ploughings are required. Connected by the Erie Canal and the great chain of Western lakes with the Eastern market, the cost of transportation from Illinois to New York is but trifling; and with such great odds in their favor, the Western States must soon become the great source of supply of grain for the Eastern markets. That miraculous change which characterised the growth of Western N. Y. after 1825, will soon be in progress, with augmented activity, in the North Western States.

REMARKS ON THE ABOVE.

ILLINOIS is only one of five States, beside two Territories, whose vast surplus of agricultural products, is soon to come down from the prolific and almost boundless West, to compete with the farmers of this state, in all their markets. What have *we* to do whose fortunes are indissolubly linked with the cultivation of the soil of New York, to secure to our labor a fair compensation?

When returning plenty shall again shut us out from the markets of Great Britain and the Continent, this question will press itself with much force upon the consideration of the farmers of this state. By what process shall we be able to keep up the price of our farms, and the value of rural industry among us? A bushel of wheat can be brought, on an average, from Ohio, Michigan, Indiana, Illinois, and Wisconsin, not to name Western Pennsylvania and Iowa, to Buffalo, for *three cents*. It will cost but little more to take a cargo through the Welland Canal to Rochester and Oswego, than to stop it at the outlet of Lake Erie. Other agricultural products will come down upon us with equal facility. With 200,000,000 acres of choice Government Land still in market at $1,25 per acre, while improvements in lake craft, in canals and railroads, are constantly diminishing the cost of transportation, what is the remedy by which *we* are to escape a ruinous competition? This question is more easily asked than answered.

We can discover no remedy but that which the SCIENCE of Agriculture will confer upon us. We have all confidence in the truth of the remark that *science* is capable of giving us at least three blades of grass, and three bushels of wheat, with the same land and labor that now yield us but two of either. This will give a nett gain of fifty per cent.

According to the late census, there were harvested in Chautauque County 269,169 bushels of wheat from 23,496 acres. This gives an average of a small fraction over 11 bushels per acre. 12,246 acres planted in Corn gave 458,320 bushels—a fraction over 37 bushels per acre. These figures are worthy of note; 1st, because they show that three bushels of corn are grown in that county, on less land than one of wheat. 2dly. Because they indicate the practicability of doubling the average product of both crops. Let us first consider that of Wheat.

It is obvious that these 23,469 acres had enough of all the ingredients in the soil that form wheat, to make the product of 269,169 bushels harvested, or 11 per acre. The remark is based alike on experience, and the researches of science that, the plants which bore this grain had within their reach, nine-tenths of all the materials necessary to have given an average crop of 22 bushels per acre. To supply the lacking one tenth, will cost less than half of the value of the *gain*—making the nett gain of 50 per cent. on the present crop. We insist on the correctness of the statement that it is cheaper to add 11 bushels to an acre, by 50 per cent., which has already been cultivated and sown, so as to grow 11 bushels, than it is to be at the expense of buying or renting, plowing, harrowing and seeding *two* acres to obtain 22 bushels of this bread forming grain. In the one case the outlay for interest on land, for seed, and tillage, is twice as large as in the other. In nine cases out of ten where the farmer can reap 11 bushels from an acre, he has produced straw enough to have yielded him 22 bushels of wheat. In truth, it is only one-tenth of the substances that will form 11 bushels of seed, which he lacks. Supply this deficiency, and it will be found that nature is quite as willing to bear 22, as 11 bushels or 44, as either, on an acre. But, what are the precise *things* that go to form the seeds of this plant, which the soil of Chautauque, and of many other counties, lacks to a greater or less extent? This is a very important question; and one that

we have long tried to solve. It is intimately connected with geology, and in a way of which we can not now speak. In the course of the coming volume however, we shall have much to say on the soils of this State, in connection with the character of the rocks and drift out of which these soils have been formed.

The reason why a pound of solid manure made from timothy hay, clover, cornstalks, oat or wheat straw, will not make, under any circumstances, a pound of wheat, is simply the fact that none of those vegetable substances contain the elementary bodies in *due proportion* which are necessary to form this grain. Hence it is that a soil may grow fair crops of hay, oats, corn, and wheat straw, and only 11 bushels of wheat per acre. Such a soil, with the aid of rain, dew, and other atmospheric agencies, may, and usually does contain, as we have already stated, nine-tenths of all the things found in seed wheat. In 100 lbs. of this grain there are $2\frac{4}{10}$ lbs. of incombustible earthy matter. In 100 lbs. of this, there are 95 lbs. of the phosphates of potash, of magnesia and of lime, in the proportions, according to Boussingault, page 366, of 47 phosphoric acid; potash 29.5; magnesia 15.9; lime 2.9. It has 1 per cent. of sulphuric acid, and 1.3 of silica. It is the *phosporice* acid which is lacking. Of this substance an acre of wheat must have 12 lbs. to give 20 bushels of seed, beside $5\frac{1}{2}$ lbs. in the straw. So that one must have about 11 lbs. to obtain 11 bushels, while $17\frac{1}{2}$ lbs. will give 20 bushels. Potash is also generally deficient in most soils. Hence when lands are first cleared, they yield more and better grain than after their alkaline earths have been carried away in crops; or have been leached out of the surface soil by excessive tillage. The *source* from whence the farmer can supply himself with phosphoric acid at the least expense, we must leave for the subject of another article. At present, we must notice one other ingredient in kernels of wheat, of which there is a deficiency in most soils, to make a great crop of this *flesh*-forming seed.

In its simplest form, this substance is called nitrogen, or azote. It is the essential element in common hartshorn, or liquid ammonia. In 100 lbs. of marketable wheat, there are from 11 to 12 lbs. of water, which may be evaporated by heating the seed in a vacuum. In 100 lbs. of dry grain there are 2.29 lbs. of azote. The elements of dry wheat are:

Carbon,	46.10
Hydrogen,	5.60
Oxygen,	43.40
Azote,	2.29
Ash,	2.41
Total,	100.00

It will be seen that the earthy portion and azote together, form a fraction less than 5 per cent. Give to the growing plants 4 per cent. of *carbon* in vegetable mold, and your wheat crop will have the *ten* per cent of the lacking ingredients, of which we spoke. From a variety of circumstances, which we cannot now enumerate, we regard the application of ammonia or azote, and of the other organic elements of wheat, as of less importance than the supply of the earthy elements of both the straw and seed of this grain. When we have demonstrated, as we soon shall, that with 10 lbs. of the *right things*, we can make 100 lbs. of wheat, corn and other plants—deriving 90 per cent. from the atmosphere—shall we not have proved that very few acres are really needed on which to change air and water into bread?

Remember that, in 100 lbs. of wheat straw, there are but 7 lbs. of matter which does not exist in the atmosphere; and in 100 lbs. of wheat, there are but 2.29 lbs. of incombustible earth. The 43.40 lbs of oxygen, and 5.80 lbs. of hydrogen, making together $49\frac{2}{100}$ lbs. in 100 of dry wheat, are nothing more nor less than so much *water* in a solid form. The $46\frac{1}{100}$ lbs. of carbon is the precise thing that makes the black charcoal where wheat, coffee or any other vegetable substance is *chared* or burned, under particular circumstances. Now mark, that the burning of volcanoes and other fires deep in the earth; the combustion of wood and coal on its surface; the fermenting and rotting of vegetable and animal matter the world over; and the ceaseless respiration of all animals, are constantly throwing into the ever moving atmosphere an immeasurable quantity of *carbon* in the shape of carbonic acid. Plants, by the chemical action of light, heat, electricity and moisture, are able to decompose this gas; and with the elements of water alone, to form starch, gum, woody fibre and oil or fat. The presence of earthy minerals in plants, are, however, quite indispensable to transform water and carbon into starch in wheat, potatoes and other vegetables. And especially are the phosphates required to change water, carbon and *nitrogen* into gluten and legumin, or the *things* in clover, wheat and peas, that make lean meat, bread, and cheese.

To Corresponeents.—Several communications intended for this number are unavoidably laid over till the next.

Dr. Harris of Harvard University, is informed that we shall be happy to aid him in procuring the insects, and their larvæ, so soon as practicable. Extracts from his valuable work, and his letter, will appear in the February number.

Carrots.—Mr. C. F. Crosman, of Brighton, has raised the past season 410 bushels of Carrots on one-fourth of an acre. This is at the rate of 1640 bushels per acre. Mr. C. has also grown something like 1000 bushels of beets on one acre of land. He is extensively engaged in the seed growing business, producing several thousand dollars worth, annually.

The Culture of Indian Corn.

THE long evenings in winter are quite appropriate for young farmers, (and old ones too, if they are willing) to learn how to grow corn to the best possible advantage. There are but few cultivated plants,—we know of none grown in this state—which draw more largely from the atmosphere and water for their nourishment. Corn plants, however, have some earthy substances, which must be drawn exclusively from the soil.

In 100 lbs. of corn (maize) Dr. DANA, who is one of the best analytical chemists in the Union, finds 1.31—100 lbs. of *ash*, or incumbustible mineral matter, which is made up as follows:

Potash,	0.200
Soda,	0.250
Lime,	0.035
Magnesia,	0.128
Oxide of Iron,	a trace
Silica, (flint sand,)	0.434
Sulphuric acid,	0.017
Phosphoric acid,	0.224
Chlorine,	1.008
	1.31.2

In Southern corn, Professor Shepard of Charleston, S. C., finds only nine-tenths of a pound of ash in 100 lbs. of the grain.

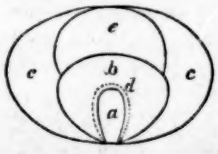
Organically considered as an article of food, Dr. DANA thus divides this superior fat-forming seed:

Starch, Oil, Sugar and Zeine,	77.09
Nitrogenous matter, (Albumen,)	12.60
Water,	9.00
Salts,	1.31
	100.00

The starch, oil, sugar and zeine, form fat alone; and are burnt to keep all gramineous animals warm. These organized substances are made up of water—oxygen and hydrogen—and carbon exclusively. The flesh-forming organized matter in corn has all the simple elements found in starch, oil, and sugar, with the addition of *nitrogen*, forming an elastic gluey substance called gluten, allumen, casiene, &c.

The following diagram and extract from the Editor's Report, to the Legislature at its last session, will serve to explain this subject more fully:

The organized arrangement of the phosphate of lime and magnesia, in an embryo corn plant, and the locality of the salts of iron, zeine and starch, are worth knowing. The following diagram illustrates the section of a grain of corn:



a. The cotyledon or embryo.
b. Starch.
c. e. Oil—zeine—sugar.
d. Salts of iron.

In the cotyledon or germ, is deposited the phosphates which form the bones of animals, and also most of the glutinous substance which is indispensable in the formation of lean meat, tendon, tissue, and the jelly found in bones. Hence, when the mouse eats out the chit or kernel of corn, he gets the raw material to make muscle, bone, and brain; and by taking into its stomach the *iron* in the dotted line *d*. this little animal, as well as the ox and man, obtain the substance which gives color to the blood, and with oxygen, the vital heat of the system.

The iron in venous blood, is in a state of protoxide.* This fluid is loaded with carbon, if not carbonic acid. From these causes venous blood is much darker colored than arterial blood. In the latter the iron is a proxide,* imparting to the blood a light vermillion hue. The fact has been demonstrated, that the air expelled from the lungs of a warm blooded animal contains 100 times more carbonic acid than the air taken into these organs. As the arteries leading from the heart penetrate every part of the living frame, they convey vital gas—oxygen, condensed in the peroxide of iron—to every portion of the system. This oxygen, while the blood is passing through the tissues from the arteries into the veins, combines with that portion of carbon which has performed its office in nourishing the body, and carries it, in the form of carbonic acid, through the veins, heart and lungs, into the ever moving atmosphere.

In thus burning the waste carbon in the system, oxygen gives out just as much heat to the surrounding matter as it would, provided an equal quantity of vital gas had burnt an equal amount of fuel in a stove.

Every body knows that active exercise will warm him in cold weather—that a horse driven forty miles a day will breathe oftener, evolve more heat and consume more food, or fuel, than he will when standing quietly in a warm stable. The waste oxygen and hydrogen will escape from the lungs of the animal, if quiet, in the form of vapor; in perspiration also, if driven hard. This sweat will carry with it some nitrogen and saline matter, which sometimes crystalizes on a horse by the evaporation to dryness of the liquid that escapes through his skin. But most of the valuable salts taken from the earth in the food of animals, escapes by the kidneys and bowels.

As the demand for carbon to form fat, muscle, cellular tissue, bone, brain, hair and wool, as well as to keep up a continuous heat of 98° night and day, is very great, it will be seen why *starch* is so abundant, not only in corn, as above indicated, but in all plants used as food for man or beast. Starch contains a large amount of carbon.

* "*Prot*-oxide" means the first oxide of Iron, i. e., one part of oxygen gas united to one of metallic iron, as is witnessed in the scale that flies off from a heated bar, when hammered on an anvil in a blackshith's shop. The "*Per*-oxide," is the red rust of Iron, having a larger portion of oxygen combined with the metal.

Copperas,—green vitriol—sulphate of iron—is a compound formed by the union of sulphuric acid (oil of vitriol) and the oxide of iron.

It is well known that if a bin of corn be moistened, it will heat and grow or rot. In the process of sprouting, a seed first imbibes some portion of the vital gas that surrounds it, which uniting with the carbon in the starch, forms carbonic acid and evolves heat. When starch thus loses one portion of its carbon, it is changed into a kind of *sugar*, making as is well known, sweet bread from wheat a little grown. If a grain of wheat be surrounded by a little waxy clay, only a half inch in diameter, it will not sprout, because oxygen gas cannot penetrate the compact earth. By sowing the grain in wet weather, so that the harrow covers the seed with mud, thousands of bushels are lost.

It is a matter of great practical importance to know how to develop a large, vigorous growth of roots. On a poor soil this can only be done by the aid of science. Deep plowing and a thorough pulverising of the soil are indispensable to accomplish this object.

The Fattening of Animals.

The art of fattening domestic animals is less studied and understood, in this country, than almost any other branch of Agriculture. Our farmers will find it much to their interest to devote more attention to the whole operation of transforming grain, roots, hay and grass into *flesh* and *fat*, to the very best advantage. There is reason to expect that well fatted cattle, sheep and swine, for many years to come, raised and fitted for the shambles in Western New York, will pay a living profit to send by rail-road to Albany and Boston Markets. To make money, however, at the business, one must be a master of the art of selecting and keeping the best animals of each kind. Skill in this matter must be acquired mainly by experience and close observation. Much however can be gained by studying the carefully recorded results of the experience of others. These have led to the establishment of a few general principles in feeding, some of which we will name:

An animal while growing in size, is less inclined to take on fat than he will be after his bones, tendons and muscles have come to maturity. Yet, a young animal will extract more nourishment from his food, and elaborate more *flesh* from a given quantity of it, than an old animal, or one that is in the meridian of life. In France, where the science of fattening animals has been cultivated with great care, and accuracy of detail, it is found that fat beef can be cheapest made from cows and bullocks at the ages of 7 and 8 years. The delay in time, cost of keep, and interest on capital, are serious objections to these ages. Where cows give milk, and oxen work, and thus both pay their way, the system indicated may be rendered quite profitable.

The celebrated English breeder, Robert Bakewell, succeeded after many years of troublesome experiments in creating a race of neat cattle and sheep, which were remarkable for their disposition to take on fat. The fundamental principles established by him, after all his experience, are these: that smallness of bone, fineness of skin and a roundness of body, are the surest indications in cattle to form a good deal of fat for the provender consumed.

The most striking features of the *Dishley Breed*, so much a favorite with Backwell, were:

1st. The animal low on his legs.

2d. The backbone straight.

3d. The carcass rounding and almost cylindrical.

4th. The chest deep and large.

All experience confirms the clear deductions of physiology in regard to the importance of so tending and rearing all domestic animals, as to have them of a gentle, meek and quiet disposition. Such animals, are better milkers, and better to take on and *keep on* both flesh and fat, than others of a wild, running nature.

Boussingault remarks that "in fattening animals in winter, which in some countries is done almost exclusively on hay, an ox weighing 740 lbs., and consuming 40 lbs. of hay a day, will increase in weight about 2 pounds daily. This would be gaining only one pound of beef, live weight, for 20 lbs. of hay. In the Rhenish provinces M. Moll states that they allow 11 lbs. of hay to every 100 lbs of dead weight of the animal daily, and expect a gain equal to one-third of its weight in three or four months.

Mr. Stephenson at Alsace, in France, fed 18 bullocks 119 days, in three separate lots of six beasts each, on white turnips, beans, linseed cake, oats and potatoes. One lot consumed 49.7 lbs. of hay each, and gained just 2 lbs. per diem, or 247.5 in all. At the time these animals were put up, their average weight was 1115 lbs., second lot weighed at the beginning of the experiment, an average of 1016 lbs.; consumed of hay per diem, 34.3 lbs.—gain in weight 1.9 lbs., or in all 231.6 lbs.

Third lot weighed at first an average of 794 lbs. each, consumed of hay 16 lbs. per diem. a day; and gained 0.9 of a pound, or 112.6 lbs. in 119 days.

An ox has been fattened on clover cut in blossom, and fed directly, consuming 100 lbs. daily, and gaining 2 lbs. in live weight. When looseness of the bowels is induced, a part of the green clover is cured and then fed, of course not omitting a fair seasoning of salt. Clover is better for milch cows than timothy grass, as many carefully conducted experiments have proved.

The blood of a fatted ox, weighing on his feet 1496 lbs., was 7.4 per cent. of the whole weight, or 110 lbs. The offal varies from 15 to 20 per cent of the live weight—that is, counting hide and tallow as equal in value to the four quarters.

M. Dubois, an extensive feeder, has realized

as the mean of many experiments, 16.9 lbs gain in live weight for every 220 lbs. of hay consumed. From this we deduct 2.4 lbs. for offal, leaving the nett gain of 14.5 lbs. of beef for every 220 lbs of hay. This at 25 cents per 100 lbs., or $5 a ton, makes 14½ lbs. beef to cost 55 cents, or nearly 4 cents a pound.

It is important to know that, in all these French and Rhenish experiments, oats, turnips, oil cake and the like, are reduced to their supposed equivalents in hay, as a kind of provender currency. According to the best judgment of the editor of this paper, these equivalents are far from being true and reliable in practice. In short, we do not credit the statement that it requires 20 lbs. of good hay or its equivalent in roots and meal to make one pound of live weight in a healthy bullock. If it, does then no man can make beef at less than $6 per 100 lbs., and live by it.

In Europe, the practice is general to keep animals, while fattening, in dark stables and well bedded, that they may sleep much of their time. Perfect regularity should be observed in the times of feeding, as cattle will expect their allowance, and fret if it be not before them. Nothing, which is left after a beast is through eating, should be allowed to remain in his feeding trough. No pains should be spared to save under shelter, and free from waste, all the liquid and solid manure of domestic animals, and especially that of fattening cattle and swine. One important object in feeding animals for the butcher should ever be to enrich one's land by the aid of the manure it furnishes. In France, Belgium, and Holland, the land to fatten a beast on, is estimated by the square yard. All its food is carried to the stable, and the manure taken back again with the utmost care. Both the urine and dung are diluted with water to about four or five times their natural bulk, and applied by a watering cart to the fields.

By this system, three times the quanty of food can be grown on a given area of land that will be where stock are allowed to run over it and trample down the tender grass, and drop their excretions in a concentrated form, and on a very small surface. As these excretions contain the precise things which form grass, a moments reflection will convince any one of the importance of applying them, not in *heaps*, nor in a form so concentrated as to *kill*, like the the urine of a domestic animal, growing plants. Hence the great importance of diluting urine and spreading it with the dung evenly over the whole surface. All that have tried soiling cattle, and especially cows, giving milk, speak faborably of the results.

We firmly disbelieve in farmers that will not improve; in farms that grow poor every year; in starved cattle; in farmer's boys turning into e rks and merchants; in farmer's daughters unlling to work; and in all farmers who are hamed of their avocation.

Mineral Elements of Plants.

We make the following lengthened extracts from a late communication of Prof. Liebig to the first number of the "Agricultural Magazine," a work recently started in London, a copy of which was sent to the Editor of the Cultivator by Mr. Horsford. The readers of our paper for the last two years, will see in this article a confirmation of the importance of the principles which we have so often urged on the attention of farmers: to wit, that they must supply their crops with the *alkalies* potash and soda; and the *phosphates* of lime and magnesia, as well as gypsum and substances rich in ammonia, nitrogen or azote. It may be well to remark that the words azote and nitrogen mean the same thing, and that ammonia and hartshorn are compounds of azote and hydrogen.

Mr. Liebig attaches undue importance to the urine and dung of swine. He says: "If it were possible to provide our fields with the dung of swine in sufficient quantity, we would replace by it, in a soil which contains *silica* (flint sand,) and *lime*, all the remaining elements of plants—we have in it not only alkaline phosphates, the principal elements of seeds; but also alkaline carbonates, which are required by the leaves, stalks and roots. This purpose can not be attained by human excrements or guano alone, but perfectly so from stable manure from its containing alkaline carbonates."

Liebig seems to have entirely overlooked the material fact that the excretions of swine and all other animals necessarily varies according to the variation in in their food. Thus, swine feeding in the same pasture with neat cattle and sheep, and eating the same grass, must certainly void the same minerals which the grass furnishes.—It is absurd to suppose that 100 lbs. of clover will furnish a different set of elementary bodies in the dung and urine of the cow, the pig, the sheep, and the horse. Again it is equally unphilosophical to contend that the excretions of swine fed on hasty pudding and milk, will vary essentially from those of man living on similar food.

Nearly all the distinguished Chemists of Europe talk about stable and barnyard manure as something of a uniform, homogenous character. The same mistaken idea runs through all their analyses of the dung and urine of different animals. As though a bushel of potatoes on passing through the alimentary canal of a cow, a horse, a sheep or a man, will furnish nothing but phosphate salts to one, carbonate salts to another, and something different from both to the third!

The following may be regarded as the essential constituents of a powerful manure applicable to all sorts of soils:—

Earthy Phosphates.—The most important of these is *Phosphate of Lime*, which occurs in nature as a mineral called *apatite*. It is the principal element in the bones, which, it may be observed, have been found most efficacious if calcined, consequently deprived of their animal matter.

The rapidity of the effects of phosphate of lime on the growth of plants depends upon its greater or less solubility. Its amount of glue (gelatine) diminishes this solubility if the soil is rich in vegetable matters, which furnish carbonic acid by their decomposition, and which acid is required for rendering the phosphate of lime soluble in water and introducing it into the organism of the plants. In the calcined state the bones act sufficiently quickly; but in those soils in which this cause of solubility is wanting, their action is slower. In my work I had recommended the addition of a certain quantity of sulphuric acid, both in order to render the bones more soluble and to change the neutral phosphate of the bones into gypsum, and into a phosphate which contains more acid (superphosphate of lime.) I have been informed that this advice has been most extensively adopted, that the superphosphate of lime has been found to be a most efficacious manure, and that it forms already a most important article of commerce. A second earthy phosphate, not less important, is the *Phosphate of Magnesia*, which it is well known enters in a still larger proportion than the *phosphate of lime* into the composition of the grain.

The *Alkaline Phosphates*, although not originally found in nature, are important elements of the seeds of grain, of peas, beans, &c. A rational farmer must provide them in sufficient quantities to those plants which require them for their developement, from knowing that human excrements increase the produce in grain in a far greater proportion because they *contain* alkaline phosphates, than the animal excrements, in which they *do not exist*.

The *Alkalies* (potash and soda) must be constituents of every rationally composed manure, because by them the original fertile condition of the field is preserved. A soil which contains the *alkalies* in too small a quantity, is perhaps, fertile for grain; but is not necessarily so for turnips or potatoes, which require a great quantity of alkali. By supplying an alkaline manure, fallows, or the cultivation of those plants which are grown during the time of fallowing, becomes less necessary.

Sulphate of Potash is a constituent of all plants, although in small quantity, as well as *common salt* and *chloride of Potassium* which are found in milk in rather a large proportion. The *salts of lime*, especially *gypsum*, are important nourishment for the leguminous plants. *Silica* is never wanting in all sorts of soils—it is a constituent of all rocks, by the decomposition of which all productive soils are formed, and the cerealia find it every where in sufficient quantity, and in a form capable of being taken up by the plants, *if the alkalies are provided* wherever they are present in too small quantity.

Salts of Ammonia.—It can be regarded as certain, that the azote of the plants is derived, either from the ammonia of the atmosphere, or from the manure which is provided in the shape of animal fluid and solid excrements, and that azotic compounds exercise an effect on the growth of plants, only in so far as they give up their azote in the form of ammonia during their decomposition and decay. We may, therefore, profitably replace all the azotic substances with compounds of ammonia.

Decaying vegetable matters, which contain carbon, are useful to the fields in so far as they provide a source of carbonic acid; but they are not quite indispensable in manure, if the latter be rationally combined, as the atmospheric air is an inexhaustible source of carbonic acid from which the plants draw their carbon, if in the manure, the mineral substances are provided which are necessary for the assimilation of the carbonic acid. These are the substances which *together* give fertility to the soil; but although each of them may, under certain circumstances, (*viz.*, where the soil is defective in it, or where it is not indifferent to the plant to take up one instead of the other, as, for instance, may be the case with soda instead of potash,) increase the fertility, no *one* of them can be regarded as manure, according to the common meaning of the word, for the simple reason, that only *all of them in certain proportions*, will fulfil the purpose for which the common manure is applied. This purpose is the restoration, or an increase of the original fertility, and by manure we must replace all the elements of the plants which have been taken away in harvest, or which are contained in the plants which we are desirous to cultivate.

What, then, are the constituent elements of the soil which we remove by the straw, seeds, tuberculous roots, stalks, &c., of our plants of culture? It is obvious that we must know these first, in order to *restore* them in sufficient quantities. To this we answer, by giving the analysis of the ashes of plants and their seeds. Hundred weights of the ashes of the following plants contain

	Straw of			Ashes of	
	Beans.	Peas.	Potatoes.	Clover.	Hay
Alkaline Carbonates,	29.38	12.43	4.34	31.63	3.0
Carbonate of Lime,	39.50	47.81	43.68	41.61	6.9
Phosphate of Lime,	6.43	5.15	5.73	11.80	40.8
Phosphate of Magnesia,	6.66	4.37	7.82	0.91	—
Sulphate of Potash or Soda,	12.40	10.15	—	2.23	3.84
Magnesia,	—	—	—	—	21.8
Chloride of Sodium or Potassium,	0.28	4.63	2.8	2.27	3.06
Phosphate of Iron, Phosphate of Alumina, &c,	—	—	—	—	12.7

In these analysis Silica has not been taken into account, as it is found in all soils, and need not be supplied. One hundred weight of the ashes of potatoes, and the seeds of the following plants, contains

	Potatoes.	Wheat.	Beans (Vicia faba.)
Alkaline Phosphates,	15.75	52.98	68.59
Phos. of Lime & Magnesia	9.00	38.02	28.46
Phosphate of Iron,	—	0.67	—
Sulphate of Potash,	15.07	—	1.84
Carbonate of Potash&Soda	51.70	—	—

What is wanting in the 100 of the above annalyses is sand, coal, or loss. From these researches it appears, that for stalks and leaves we require other elements than for seeds. The former contain no alkaline phosphates, but they require for their development and growth a rich supply of alkaline carbonates and sulphates. On the other hand the carbonates are entirely wanting in the seeds, but the latter are very rich in phosphates. It is sufficiently obvious that a rational farmer must supply *both*, as well as all the others. If he supplies only phosphates, and does not restore the alkaline carbonates, his soil will become gradually barren—it will be exhausted in those necessary elements for the development of stalks and seeds, without which no formation of seed can be expected. If he supplies the alkalies, lime, and sulphates alone, in a given time he will get no more grain. All constituent elements of the manure, if they are supplied *alone*, have that great defect, that by them the soil is impoverished in other equally important elements. No *one* of itself can maintain the fertility. Keeping this in view, we may easily judge of the comparative value of artificial and natural manures, and all the various *arcana* which have been praised as *panaceas* for exhausted soils.

It is not less easy to understand why the farmers have such different opinions on the relative value of the constituents of manures—why one whose farm is rich in phosphates, produces an uncommon fertility by the application of nitrate of soda, or the supply of alkalies, while another does not see any favorable effect at all—why bones (phosphates of lime) produce in many fields wonders, and are not of the slightest benefit to others, which are deficient in alkalies or alkaline salts. From the composition of animal manures, it results with certainty, that by applying the latter, (solid and fluid excrements of men and animals) we supply to the soil not one but all the elements which have been taken away in the harvest. Fertility is perfectly restored to the field by a corresponding supply of this manure, and it may be increased by it to a certain limit. This will be the more intelligible, if we compare the mineral elements of the urine of horses and cattle with the mineral elements of herbs, straw, roots, &c., of our cultivated plants. It will be found that in their quality they are perfectly identical.

	Urine of a Horse.	Of Another.	Of Oxen.
Carbonate of Lime,	12.50	31.00	1.07
" of Magnesia,	9.46	13.07	6.93
" of Potash	46.09	40.33	77.23
" of Soda,	10.33		
Sulphate of Potash,	13.04	9.02	13.30
Chloride of Sodium,	0.55	—	0.30

These salts in the urine of horses amount to nearly 4 per cent.; in that of oxen to 2⅛ per cent. of their weights. If we compare the composition of these different sorts of urine with the composition of the straw of peas, beans, and potatoes, of clover and hay, it will at once be obvious, that in stable dung we replace by the urine, the alkaline carbonates which we have removed in harvest. What in this urine, is wanting in phosphates and carbonate of lime and phosphate of magnesia, forms the principal constituent elements of the solid excrements of animals; *both together* (solid excrements and urine) restore the field to its original composition. and thus a new generation of cultivated plants meet with the

mineral ingredients necessary for their developement. If we farther compare the guano and the fæces of men with the composition of the animal urine, the analysis shows (rf. my book on agriculture) that both are entirely defective in *alkaline carbonates*—they contain phosphates and sulphates as well as chloride of sodium; but no free alkali—they contain phosphate of lime and phosphate of magnesia, in short their elements are in *quality* identical with the important mineral elements of the seeds of wheat, peas; beans, (rf. he analysis.) The urine of swine is in its composition intermediate between the urine of man and horses.

Analysis of the urine of swine.

Carbonate of Potash,	12.1	The solid Excrements of Swine contain principally phosphate of lime.
Phosphate of Soda,	19.0	
Sulphate of Soda,	7.0	
Chloride of Sodium,	53.1	
" of Potassium,		
Phosphate of Lime,	8.8	
" of Magnesia,		
Traces of Iron,		

What the practical results of a knowledge of the composition of these manures are, is clear. If it were possible to provide our fields with the dung of swine in sufficient quantity, we would replace by it, in a soil which contains *silica* and *lime*, all the remaining elements of the plants—the field might be made fertile for all kinds of plants—we have in it not only alkaline phosphates, the principal elements of the seeds, but also alkaline carbonates, which are required by the leaves, stalks, and roots. This purpose cannot be attained, however, by manuring with guano or human excrements alone, but perfectly so by stable manure, from its containing alkaline carbonates. If I have said that stable manure contains the mineral elements of the nurture of the plants, exactly in a state and condition in which they are furnished by nature—that a field manured by it resembles the primitive state of America and Hungary, this assertion will not be found exaggerated. It is certain that stable dung contains no alkaline phosphates, but nature does not furnish to the plants these elements even in the most fertile soil, although we find them in large quantity in all the seeds of wild plants. It is obvious notwithstanding their absence from the soil, that the phosphates are formed in the organism of the plants, and that they originate from the phosphate of lime and magnesia and the supplied alkalies, by an exchange of the elements of both. The alkalies are necessary for forming *alkaline phosphates*, which cannot originate in the phosphate of lime alone. Both together are present in stable dung. In human excrements, and in guano, the alkaline carbonates are entirely wanting. The practice of the farmer, in some places, of supplying to the field not pure guano, but a mixture of it with gypsum, shows clearly that the phosphates of alkaline bases are really formed in the organism of the plants from the phosphate of lime and magnesia, because this mixture (guano and gypsum) contains less phosphate of potash or soda than the guano itself; or, in certain proportions of gypsum, no alkaline hposphates at all; the soluble phosphates in the guano decomposing the gypsum into phosphate of lime and magnesia, and into sulphate of potash. I am far from asserting that we should not provide the fields with alkaline phosphates; the excellent effect of the guano, and of the human excrements, is too well known to question it, and we perceive, from this fact, that plants are in this respect like domestic animals which with a normal food, are healthy and strong, but do not fatten. On the contrary, we know that if we prepare the food of these animals artificially, so as to render it more easily digested and assimilated, they are enabled to consume, in a given time, a greater quantity of it by which all their parts increase in weight. The same happens with plants if we give them their nourishment in a state most appropriated for assimilation; their capability to attract the other elements from the atmosphere increases and their developement is accelerated. If we recollect that the favorable effect of guano upon our fields depends on its amount of *ammoniacal salts*, of *alkaline phosphates*, and the *other mineral constituents* of the seeds, but that it is defective in *alkalies*, the principal elements of the *herbs*, *straw*, and *roots*, it is easily understood why the opinions of farmers, on the value of guano as a manure are so very different. On a soil, which is defective in alkalies, its effect is small; on a soil rich in them, it increases the produce in a remarkable degree; but, as I have already observed, the continued application of guano must gradually diminish the fertility of our fields for a number of plants, because the elements of those organs, of the leaves, stalks, roots, &c., without which the plants cannot be developed and cannot produce seeds, are taken off in the harvest without any restoration of them. I think it, therefore, certain, that the stable dung can replace the guano to a certain degree, but not *vice versa*. A rational agriculturalist, in using guano, cannot dispense with stable dung.

A covering for those places in which stable dung is preserved, in order to shelter it from the effect of the rain, has been regarded in Germany as essential for preserving its manuring power. In consequence of the experience, that the soluble elements of stable dung are the most efficacious, it has in some cases, been drawn out with water, and it has been found advantageous to carry *only this fluid* to the fields, I need only refer to the foregoing analyses of the urine of animals in order to see upon *which elements* of it this effect depends.

The reason why, in certain years, the influence of the best and most plentiful manuring is scarcely perceptible, is, that during the moist and rainy springs and summers, the *phosphates* and *other salts with alkaline bases*, as also the *soluble ammoniacal salts* are entirely or partly removed. A great amount of rain and moisture removes in the greatest quantity, the very substances which are most indispensable to the plants at the time that they begin to form and mature seeds. The system of draining, which, of late has been so extensively followed in England, brings the land into the state of a great filter, through which the soluble alkalies are *drawn off*, in consequence of the percolation of rain; and it must, therefore, become more deficient in its *soluble* efficacious elements.

Attentive farmers must have observed that after a certain time the quality of the grain on land laid dry according to this principle, deteriorates; that the produce of grain bears no due proportion to the produce of straw.

What is more evident, sir, after these remarks, than that intelligent farmers must strive to give to the soil the manuring substances in such a state, as to render possible their acting favorably on the plants during the whole time of their growth. Art must find out the means of reducing the solubility of the manuring substances to a certain limit, in a word of bringing them into the same state, in which they exist in a most fertile virgin soil, and in which they can be best assimilated by the plants.

I am, sir, your obedient servant,

Giessen, 1845. DR. JUSTUS LIEBIG.

PRODUCTION OF THE PRECIOUS METALS IN RUSSIA.—We learn from Hunt's Merchants' Magazine for November, that the aggregate value of the precious metals produced in the Russian empire during the last thirty years, is 1,169,187,000 francs. Since 1813, the production of gold has increased more than ten-fold, while that of silver has made but little progress. From 1826 to 1844, coin was struck from platina to the value of 13,000,000 francs. From 1664 to 1844, 180 years, gold coin for the value of 191,508,401, silver coin for the value of 344,638,092, and platina coin for the value of 3,468,572, had been struck in Russia. Value altogether, in francs, 2,158,460,000. Value in pounds sterling, 84,314,853.—There was struck, besides, copper coins to the value of more than 50,000,000 silver rubles.

AMERICAN ICE IN THE EAST INDIES.—The Ice Trade is one of considerable magnitude. The quantity shipped from Boston last year, is said to have been 55,000 tons, delivered on board at cost of $250 per ton, while the product of sales is put down at $3,575,000. A building 40 feet high, 178 feet wide, and 198 feet long, enclosing more than three-quaaters of an acre, and capable of holding 30,000 tons of ice, has been erected at Calcutta. What a monster Ice House!

Agricultural and Commercial Statistics.

We are very partial to the study of Statistics; and hope the day is not distant when plain facts, simple truth, and genuine knowledge, will take the place of *romance* in the public mind, and of *fiction* in the politics and legislation of the country. Fairy tales will do for the amusement of children. But after all, the clouds, moon-beams and mysticisms of twilight intellects, can never successfully compete with the sober statistics of patient, calculating reason. It was the source of great mortification to us that our Tables for showing at a glance, first, the whole number of acres of land cultivated in this state; secondly, the number in *meadow* and *pasture*; thirdly, the acres sown and planted in grain, roots, &c., should have been so mutilated in the Senate as wholly to omit the columns relating to meadows, tons of hay, and grazing lands. In this regard our late Census returns are sadly defective. It is some satisfaction, however, to know that the Agricultural Statistics are more comprehensive, and particular, than any which either the State or United States Government has before made. We shall compile for the present volume of the Farmer a valuable synopsis of the Agricultural products of every county in the State, so soon as the matter is arranged at the Comptroller's Office. We shall also show that, from some cause, we are driving our native born citizens out of the state, by tens of thousands, and supplying their places by immigrants from Europe.

We have on hand a mass of statistics relating to our whole exports to all nations since the organization of our National Government, from which we shall condense a birds-eye view of our foreign trade. It is a curious *fact*, and one that signally marks our *good living*, that, of the 459,000,000 lbs. of Coffee grown on this planet, the people of this country actually consume about *one-third part*, or 149,711,820 lbs.! It is hoped that the following Table will be found interesting:

Articles that arrived at Tide Water on the Hudson in 1841 and 1844:

	1841.	1844.
Furs, lbs.	1,180,000	832,200
Boards, M. feet,	177,720,349	232,434,700
Shingles, M.	46,385	78,125
Timber, cubic feet,	1,023,576	921,982
Staves, lbs.	110,542,839	97,533,000
Wood, cords,	21,403	16,550
Ashes, bbls.	43,093	80,646
Pork, bbls,	115,150	63,646
Beef, bbls.	18,113	50,000
Cheese, lbs.	14,171,081	26,674,500
Butter and Lard, lbs.	16,157,653	22,596,300
Wool, lbs.	3,617,075	7,672,300
Flour, bbls.	1,647,492	2,222,204
Wheat, bush.	781,055	1,262,249
Rye, bush.	8,070	62,239
Corn, bush.	119,762	17,861
Barley, bush.	121,010	818,472
Other grain,	663,375	1,166,524
Bran, bush.	566,013	4,177,489
Peas and Beans, bush.	39,280	21,176
Potatoes, bush.	32,397	18,263
Dried Fruit, lbs.	498,697	1,299,400
Cotton, lbs.	196,842	79,600
Tobacco, lbs.	859,730	323,900
Clover Seed, lbs.	3,571,331	4,594,300
Flax, lbs.	966,263	3,114,300
Hops, lbs.	298,096	1,319,700
Spirits, gall.	2,022,770	1,204,317
Leather, lbs.	1,856,900	3,969,000
Furniture, lbs.	1,533,727	2,177,400
Lead, lbs.	259,172	41,800
Pig Iron, lbs.	4,037,423	6,422,600
Iron Ware, lbs.	889,777	944,900
Woolens, lbs.	424,320	867,200
Cottons, lbs.	1,093,618	1,584,600
Salt, bbls.	18,197	175,013
Stone Lime, lbs.	25,726,735	50,139,800
Gypsum, lbs.	120,772	1,891,300
Coal, lbs.	16,089,871	18,480,700
Sundries, lbs.	31,970,136	54,722,400
Merchandize, lbs.	309,900	492,300
Do. going *from* tide water, Tons,	132,841	135,616

The above Table discloses many facts worthy of note. It will be seen that, in three years, *Ashes* (pot and pearl,) have increased from 43,093 bbls. to 80,646, or about 100 per cent. This is interesting, as it marks the rapid clearing of land in the West. The increase has been regularly progressive; being 43,093 lbs. in 1841, —44,824 in 1842,—77,739 in 1843, and 80,646 in 1844. Of the latter, about one half came from the Western States (being the increase.) 32,209 bbls. arrived last season, 1844, at the port of Buffalo.

Cheese arriving at tide water has increased from 14,171,081, to 27,674,500 lbs.

Butter and Lard increased largely in three years; being 16,157,653 lbs. in 1841, and 22,596,300 in 1844.

Note the increase in *flour*, *wool*, *dried fruit*, *flax*, *leather*, *pig iron*, *woolen* and *cotton goods*, *stone lime* and *gypsum;* and also the *decrease* in *spirits*, (whiskey,) which shows a happy falling off, of nearly one half, or over 800,000 gallons.

In our next number we shall give tables showing the price of Flour in the city of New York for the last 23 years,—the imports of Agricutlutural and Forest products into this State at Buffalo, Black Rock, Oswego, and Whitehall, for the years named above; and, if made up at the Controller's Office, the total movement on all the Canals in this State, for the remarkable year just closed.

Keeping Your Pigs in Winter.—There is both negligence and mistake in the way of wintering pigs. I am not talking to those whose manner of keeping stock is, to let stock take care of themselves, but to farmers who *mean to be careful.* Hogs should be *sorted.* The little ones will, otherwise, be cheated at the trough, and overlaid and smothered in the sleeping heap.—There should not be too many in one enclosure; especialy young pigs should not sleep in crowds, for, although they sleep warmer, they will suffer on that very account. Lying in piles, they get sweaty; the skin is much more sensitive to the cold, and coming out in the morning, reeking and smoking, the keen air pierces them. In this way, young pigs die off in the winter by being too warm at night.—*Indiana Farmer.*

ELM-WOOD COTTAGE.

THE RESIDENCE OF THOMAS H. HYATT, ESQ., NEAR ROCHESTER, N. Y.

Elm-Wood Cottage.

THE proprietor of this beautiful Cottage Residence promised us a description to accompany the above engraving—but we did not receive it in time for this number. It will be given in our next.

Preservation of Potatoes.

THERE is reason to believe that, if potatoes are covered some three feet in depth, so as to wholly exclude the air and keep the tubers at a uniform temperature below that at which their germs will grow in the least, they may, like the seeds and germs of other plants, be kept years, quite free from decomposition. We wish to impress on the minds of our agricultural friends this important fact, that when a vegetable is surrounded with a low temperature, having the air wholly excluded, it will last for ages, like logs deep under ground, like the seeds of white and red clover, and the germs of peas and found enclosed in the coverings of mummies 3,000 years old. To prevent the pressure of too much earth a deep cellar or hole might be dug in dry earth, seven feet deep, and half filled with potatoes, having a frame of scantling with cross pieces, so that slabs or boards might rest on them close to the potatoes, but not in contact with them. Over this earth could be packed hard for three feet in thickness.

We make these suggestions, because we have often seen very fine *new* potatoes in the Buffalo market, in June and the first of July, which had been placed in such pits so soon in autumn as they were ripe, and there kept till the middle of the next summer, precisely as they were when buried. Garden vegetables may be preserved in a similar manner. We shall recur to this subject, that my young readers may know *why it is* that the germs of plants, like those of white clover and wheat, may be buried in the earth for indefinite ages, and then grow, by the joint assistance of light, warmth, moisture, and probably electricity.

TWO NEW FACTS RELATIVE TO THE POTATOE DISEASE.—We are informed by Mr. T. C. PETERS, of Darien, that he has lost by rot something like 1000 bushels of potatoes this season, and has observed the important fact that a field of potatoes, whose stems and leaves were evidently affected with the blight, had had its tubers *preserved* from all injury by the action of a frost that killed the potatoe tops dead. This crop grew on a low piece of ground, and subject to frost. Another field hard by, similarly affected, escaped the frost, and most of the potatoes rotted in the hill. His early potatoes all escaped the malady.

The other fact is this: Mr. PEARCE, of Hamburg, who is an excellent and observing farmer, saw that his potatoe vines were affected, and pulled several hills to examine the roots. They were sound, and left separated from the stems or tops. By this separation these hills wholly escaped the rot, while the potatoes in all the adjoining hills were rotten at the time of harvest.

Speaking of Mr. P's. potatoe crop, reminds us, (as we examined his field last summer for the potatoe insect, which was described in the August number of this paper,)—that we have neglected to inform our readers that said insects, when fully developed, proved to be large white millers.

Cortland Agricultural Society.

MR. EDITOR:—Our County Agricultural Society held its Annual Meeting on the 4th instant.—The meeting was large and spirited. The following gentlemen were elected officers for the ensuing year:

HENRY S. RANDALL, of Cortlandville, *President.*

THOMAS HARROP, CHARLES MC'KNIGHT, SQUIRE JONES, HIRAM HOPKINS, *Vice Presidents.*

AMOS RICE, *Treasurer.*

JAMES M. LEACH, Cortlandville, *Rec. Secretary.*

PARIS BARBER, Homer, *Cor. Secretary.*

WILLIAM F. BARTLET, *Marshal.*

EXECUTIVE BOARD—Henry Stephens, David Matthews, Harnel Thompson, Andrew Dickson, O. M. Shedd, Henry Brewer, Oren Bowen, Martin Sanders, Morris Miller.

Yours, H. S. R.

Monroe Co. Agricultural Society.

At the Annual Meeting of the Monroe County Agricultural Society, held pursuant to adjournment, at the Office of the Genesee Farmer, in Rochester, on the 10th day of December, 1845, the following named gentlemen were elected officers for 1846:

JOHN H. ROBINSON, *President.*
ELISHA HARMON, }
CALEB K. HOBBIE, } *Vice Presidents.*
FRED. P. ROOT, }
JAMES P. FOGG, *Treasurer.*
JAMES H. WATTS, *Rec. Secretary.*
JOSIAH W. BISSELL, *Cor. Secretary.*

TOWN COMMITTEES.

Wheatland—Jirah Blackmer, Wm. Garbutt, Geo. Sheffer.
Chili—Wm. Pixley, Jacob Strawn, John K. Ballentine.
Riga—Charles Tenny, John Rowe, Dennis Church.
Ogden—Jesse Harroun, Dr. Smith, Marcus Adams.
Sweden—J. W. Spencer, Jacob Sutphen, Asa Rowe.
Clarkson—Henry Martin, Adin Manley, Isaac Allen.
Parma—Isaac Chase, Roswell Atchinson, J. M. Webster.
Greece—Geo. C. Latta, Robt. H. Brown, Hall Colby.
Brighton—Romanta Hart, S. P. Gould, N. Hayward.
Henrietta—Wm. C. Cornell, Elihu Kirby, S. Leggett.
Rush—Thomas Wright, John Rowe, John Birdsall.
Mendon—A. Cole, Benj. Eckler, Benj. Birdsall, Jr.
Pittsford—Erastus Williams, H. Newcomb, H. S. Potter.
Penfield—Elias Beach, S. Miller, D. E. Lewis.
Perinton—Gideon Ramsdell, Z. Burr, John Ayrault.
Webster—Dr. O. Reynolds, B. Woodhull, J. VanAlstyne.
Irondequoit—H. N. Langworthy, J. Lyon, J. McGonegal.
Rochester—B. F. Smith, L. B. Langworthy, Amos Sawyer, Patrick Barry, James M. Whitney, Wm. Kidd, James P. Fogg, T. H. Hyatt, John Haywood.

On motion of James P. Fogg,

Resolved, That the thanks of the Society be tendered to Wm. Buell of Gates, Anan Harmon of Chili, Ellwanger & Barry of Rochester, and to H. M. True of Rochester, for their donations to the Society, for the purpose of increasing its funds, of the premiums that had been awarded them at the last Fair.

Resolved, That this Society has heard with great pleasure the announcement that Dr. Lee has consented to deliver in the city of Rochester, the ensuing winter, a course of *free Public Lectures*, on the science of Agriculture, and we would recommend all interested in Agricultural improvements to attend; believing as we do that the information thus given to the community by a well known and competent Lecturer, will be not only highly interesting, but beneficial and permanent.

Resolved, That the Treasurer of this Society be authorized to appropriate the sum of *Twenty Dollars* to assist in defraying the necessary expenses of these Lectures.

Resolved, That all premiums not claimed in 3 months after the awards of the committees be considered as donations to the Society.

On motion of T. H. Hyatt,

Resolved, That we approve of the plan of establishing a *State Agricultural School*, under the patronage of the State, and that we concur with the suggestions of the *Cortland Democrat*, that Rochester (or vicinity,) would be a suitable location for such an institution; and that, as a society, and as individuals, we will use our best exertions to aid in its establishment.

Resolved, That a copy of these Resolutions be sent to the Representatives in the Assembly for this county, and to the Senators of the 8th District; and that they be requested to use their exertions to procure the passage of a law for the establishment of such Institution as that contained in the foregoing resolution.

The Treasurer made the following Report:

1845.	Amount of Cash on hand, Dec. 30 1844,	$46 37
Oct. 8.	Amount received from 202 members,	202 00
" 10.	" " " the State	194 00
		$442 37
Nov. 8.	Paid receipts from No. 81 to 156, inclusive,	308 25
	Paid expenses of Society,	65 81
	Cash on hand,	68 31
		$442 37

JAMES P. FOGG, *Treasurer.*

REPORT OF COMMITTEE ON FIELD CROPS.

Your Committee have examined the few certificates that have been presented of Field Crops, for premiums—regretting, at the same time that so lean a competition should be presented before them; there being no competitors for Wheat, Barley, or Oats, prominent grains in our field productions.

The only ones may be found in the following three competitors for Corn:

The first premium awarded to Mr. Samuel Smith, of Henrietta, for his acre of Corn, amounting to *eighty and one-fourth* bushels per acre—Colman's Reports and $3.

The second premium to Mr. John McGonegal, of Irondequoit, for his acre of Corn, amounting to *seventy-seven* and 53-75*ths* bushels to the acre—Volume Transactions and $3.

The third premium to Mr. Caleb K. Hobbie, of Irondequoit, for his acre of Corn, amounting to *fifty-five* bushels per acre—Volume Transactions and $2.

A special premium was awarded (there being no competition,) to Mr. Alfred Fitch, of Riga, for his crop of Mangel Wurtzel, 533 and 40-69*th* bushels on half an acre—$3.

Also, a special premium to Mr. Henry Livingston, of Irondequoit, for his crop of Potatoes, containing 230 and 1-4th bushels per acre—no competition—$3.

CALEB K. HOBBIE, }
JIRAH BLACKMER, } *Committee.*
NATHANIEL HAYWARD. }

The Society awarded to J. Onderdonk, of Greece, for nine varieties of Seedling Potatoes, exhibited at the County Fair,—Volume Transactions and $2.

To Matathias Garritt, of Gates, for four varieties of Seedling Potatoes, (exhibited at same time,)—$3.

To H. N. Langworthy, of Irondequoit, for several varieties of Seedling Potatoes—shown at same time—$3.

To James Hart, Irondequoit, for best two year old Colt, ---------- $3,00

To Mr. Stottle, Chili, 2d best, ---------- $2,00

To Robert Martin, 3d best, ---------- Vol. Trans.

To J. C. Rich, Penfield, $1 and Vol. Trans., for Honey—overlooked by Com. at the Fair.

To Martin Smith, Wheatland, Vol. Transactions, instead of Diploma.

On motion, it was

Resolved, That Wm. C. Bloss, M. L. Angle, and Thos. H. Hyatt be Delegates from Monroe County Agricultural Society to the Annual Meeting of the State Agricultural Society, to be holden in Albany on the 21st of January next.

On motion, the Society adjourned to the *Second Tuesday in February*, 1846, at 10 o'clock, A. M.

JOHN H. ROBINSON, *President.*
JAMES H. WATTS, *Rec. Secretary.*

Acknowledgments.

The Publisher of the Farmer is greatly indebted to the conductors of the Press, in Rochester, Buffalo, Geneva, Seneca Falls, Dansville, and many other sections of Western New York, for publishing the Prospectus for Volume VII—and also for their very friendly and complimentary notices of this publication.

We are also under great obligations to those who have procured and forwarded subscriptions for the new volume of the Farmer. The augmentation of our subscription list, during the past month, has far exceeded our most sanguine expectations. In some instances, we have received lists of over twenty new subscribers, forwarded us by persons who had not previously taken the Farmer—while we are indebted to numerous old patrons for similar favors. Many of those who have ordered from five to twenty-five copies, have generously sent us the full amount of fifty cents for each copy—refusing to retain the per centage offered in our published terms.

☞ The Reader will notice that we commence the New Year and Volume in an *entire new dress*. All our type, &c., are new and of the best kind. The publisher is a practical printer, and personally attends to the publication of the Farmer, and its patrons are assured that he will use all proper exertions to have it correctly and promptly issued on the first of each month.

We request the friends of this journal to use a little effort to increase its circulation in their respective neighborhoods. They can thus essentially aid in sustaining the Genesee Farmer, at its present enlarged size and low price.

We commend the sound and liberal views of the dignity of Agriculture, and the importance of learning and *reading*, to the practical farmer, which are set forth below by a distinguished and successful "Plow-holder."—[Ed.

For the Genesee Farmer.

To the Farmers of Western New York.

Fellow Cultivators:—The time has at last arrived when the tilling of the soil is considered to be the most important pursuit for social man, and its cultivators are acknowledged to be entitled to the first rank in civilized society. And it will depend much upon us, and our sons, whether we prove ourselves deserving of the dignified station which we ought to occupy; or whether the fond hopes of the future exalted state of society shall be blasted, and prove nothing but a visionary dream.

Our avocation is more complicated, and requires more perseverance, knowledge and skill, to become master of it, than any other human pursuit; yet it has too generally been considered the easiest of all callings to acquire. But it is cheering to know, that that fatal delusion is fast vanishing, and that the tillers of the clay are beginning to realize that it is necessary for them to have knowledge—to possess skill—to be industrious and economical—to enable them to be successful in their laudable pursuit. Our profession consists of two parts, very distinct and different from each other, but both equally essential for the farmer to know, if he wishes to be deserving of the honorable appellation of being A FARMER. The one is the operative or practical part, which is more multifarious, and requires more experience and skill, to be master of it, than any of the mechanical arts.

The farmer has to lead and to drive the team—to hold the plough—to use the axe, the hoe, the fork and rake—to swing the scythe and cradle—to load, mow, and thresh the grain—to plant and sow, and numerous other things, all and each one of which require much time, perseverance and toil, to become master of them. Yet it is necessary that they should all be learned to a degree of perfection, to be a good practical operator—which makes it so necessary for each one who intends to be a farmer, to commence in early life, And much will depend upon the judgment and skill of the instructor, as to the proficiency that the pupil will make.

When boys first commence work, too much care and pains cannot be taken to teach them the right way to handle their tools, and learn to do their work well. It is a very common practice, and a very injurious one, to stimulate boys (to be what is called smart,) to pass quickly over their business. First learn them to do things *right*, and *well*, and then to be *expeditious*. When boys acquire careless and slovenly habits, in performing their work, it is very difficult to break them of it.

The second part, which is known as the theoratical, or scientific part of Agriculture, viz:—the knowledge which directs us in all our various operations, and enables us to judge what it is best for us to do, and how to do it so as to secure the greatest amount of products from our labor, which is called the *skill* of the farmer, but correctly speaking, it is his *scientific knowledge*. It is equally necessary for him to learn this as it is to understand the operative part, and it is very much to be regretted that this essential part of farmer's instructions has heretofore been so much neglected.

No human pursuit—no scientific profession—is so complicated and intricate, nor requires the extent of knowledge and expansion of mind, as the knowledge of the cultivation of the earth, and its productions. Yet this is the knowledge necessary for the farmer to know; but the question may be asked, "how are we to acquire this knowledge?" Youth is the time to learn, but there are not any of us too old to improve.

There are various means of acquiring agricultural knowledge. First by experimenting on, and carefully observing the productions of the soil, the growth of Plants and Animals, their wants and necessities—the food best adapted to supply their wants—and the adaptation of the various soils to produce said food. But this knowledge, which is so very necessary for every farmer to acquire, would be very limited if confined to each individual alone; his life would be far spent before he could know much.

Secondly, knowledge can be obtained by interchanging ideas with each other. This is useful. It gives each individual the benefit of his neighbors knowledge and experience, and by comparing views with each other, it enables us to correct the errors which all are liable to fall into. But when this source is very limited; few of our leisure hours can be spent in conversation, and when they are it is frequently too hurried to be remembered.

Thirdly, reading is a valuable and extensive source for obtaining agricultural knowledge, and especially when it is united with the two former—all leisure hours can thus be employed without bodily exercise; and your memories can be refreshed at leisure.

But I am aware that many of you believe that no useful agricultural knowledge can be acquired from Books and Journals, which is a very great mistake. What are Books and Journals, but the opinions of men put on paper? and what can they lose in value for being printed, because you find things in print which you do not approve, or views different from your own? That is no reason why you should condem themn and cease to read. You and your neighbors frequently disagree relative to your most intimate pursuits, but you do not therefore condemn discussions and cease to converse. Yet the one would be

equally as consistent as the other. Reading is necessary for every one who wishes to obtain general knowledge on any subject, and especially on agriculture. No farmer ought to be without an Agricultural Journal; but if you have no taste for such reading, nor think it of any value to yourselves, do not deny your sons and their associates the useful gratification. Endeavor to stimulate them to obtain knowledge relative to their own pursuits, by reading. Supply them with books and journals, and encourage them to read them. Value not the trifling expense, for rest assured that you cannot bestow on them a greater boon; for without it, they never can have comprehensive views, nor extensive knowledge.

The Genesee Farmer, is purely a Farmers Journal, and ought to be patronised by us all. Were every farmer in Western New York to become a subscriber, and occasionally a contributor, what a splendid volume of useful information would it annually make! Try it, fellow plowholders, and let the coming year prove that *we*, as well as others, can obtain knowledge by *reading*. Yours most respecsfully,

A Plow-Holder.

Monroe Co., Nov. 24, 1845.

Baldwin's Universal Pronouncing Gazetteer.—Here is a book, Edited by Thos. Baldwin and others, Philadelphia, which fills an important hiatus in our Lexicography. All our Dictionaries, I believe, are deficient in giving the pronunciation of the proper names of towns, cities, &c. How often do we hear a man from the west speak of Purr-dy-skin, Terry-hut, Baton-Rowg, Cally-furny, &c. &c. With the aid of this Gazetteer, at a cost of a few shillings, every man can speak and write the proper names of most places, in every part of the Globe.

Every Common School in the United States, should have one or more of these pronouncing Gazetteers. How often do we form a favorable opinion of the intelligence of a stranger, or a fellow traveller, merely from his correct pronunciation of proper names, and *vice versa*.

But if a correct naming of places is so important, how much more so is a knowledge of their geographical position, statistics &c.,—a very graphical notice of which is given in this Gazetteer. In point of literary importance, it is second only to the Dictionary. It should be present in every family in which books are read. Published by Lindlay & Blackistan, Philadelphia, 1845.

To Extract Grease from Carpets.—The New York Tribune gives the following mode of extracting grease from carpets: Cover the spot with whiting till saturated–then remove the whiting and apply another coat. Continue to apply it till the grease is extracted. Three applications will generally be sufficient.

For the Genesee Farmer.

Letter from S. W., of Seneca Co.

E. H. Bartlett, of Romulus, near Seneca Lake, planted the past spring an acre of Corn for fodder, 18 inches apart one way, 12 inches the other, three kernels to the hill. He got five tons of well cured fodder, and 54 bushels of ears of corn. The land had been previously planted, but had never received any organic manure; it was a clay loam, interspersed with quartz and limestone pebbles.

Five tons stalks, worth this year $7 per ton,	$35 00
54 bushel ears of Corn, 25 cents per bushels,	13 50
	$43 50
Deduct expenses, one bushel seed, plowing land, hoeing twice, cutting up, husking, stacking stalks, and use of land,	17 40
Profits,	$31 10

Mr. B. also grew forty bushels good spring wheat to the acre, this season. It was of the Labrador variety, sown very early in the spring.

The stalks and corn blades from the acre above noticed, leaving the corn to go as extra profit, will winter stock enough, if stabled at night, and yarded during the day, to make manure sufficient to keep an acre of ground fertile. This same acre, had it remained in meadow, would hardly have produced, this dry season, one ton of hay: had it been kept in pasture, a single cow would have starved on it. Tilled as it was, the humus in the soil united its hydrogen with the ammonia and carbonic acid, generated at the expense of the atmosphere, and evolved by the worked surface, now formed a vegetable structure of five tons of slender stalks, and corn blades, and fifty-four bushels of ears of Corn.

Often the past summer in passing a drought stricken pasture, have I asked in vain for that *oasis* in the desert of famished herbage, a green acre of roots, or Indian Corn planted for fodder. This should not be, in our warm dry climate and calcareous soil, and a summer without a drought, is considered a phenomenon. The closed surface of manures, and pastures, has no inherent power to retain the dews of heaven, or to make available to any great extent, the fructifying gasses therein contained.

Strange as it may seem, many of our best Seneca County farmers, for the want of a single acre or two, thus appropriated, are now seen ignobly competing with the poor villagers, in the purchase of Shorts, short of nutriment as they are, when manufactured at our sharp grinding Merchant mills. Yet without this accessary, much of our farm stock would be "*on the lift*," as the Virginians say, before the coming spring.

Waterloo, Dec. 17, 1845. S. W.

A Good Wife.—Andrew Johnson a member of the House of Representatives from Tenesee, was taught by his wife to *read* after his marriage! He is a sailor by trade, and is said to be an estimable and intelligent man.

For the Genesee Farmer.

The Potatoe Disease.

DR. LEE—*Dear Sir:* The writer of an article copied into your December number says, "Be very careful not to plant potatoes infected with the disease. Avoid planting potatoes in places where they grew this year." The following facts illustrate the respective value of these two directions. Upon a farm I have in Bradford Co. Pa., there grew in 1844 three fields of potatoes. They were planted before I came into possession—but I believe the seed was all sound, and from the same stock. One field was new land, very high, and dry. The other two were older land, lower and moister. Every potatoe grown in the first field was sound. In the others some were diseased. The next season, 1845, one of the lower fields was again planted, using seed from the high ground. The summer was drier than in 1844, and the produce was all sound; as was also that on some adjacent green-sward planted with the same seed. Farther to prosecute the experiment, I had some infected seed planted on a part of the green-sward, and there the crop was more than half lost. There was no communication of the disease, though the sound and diseased hills were but three feet apart.

In my professional rides over the mountains and valleys of Bradford and Chemung counties, I have observed the farmers in the valleys suffering so much the more from this scourge, that I have often advised them to procure seed from their highland neighbors.

The inferences from my observations are, that the disease is not contagious,—that it is perpetuated by infected seed, and not through contamination of the soil—and that low, moist localities are most obnoxious to its influence.

SUMNER RHOADES, M. D.

Blossom's Hotel, Rochester, Dec. 1845.

For the Genesee Farmer.

Sanford's Straw Cutter.

MR. EDITOR:—I see that B. F. SMITH & Co. advertise for sale "Sandford's Premium Straw Cutter." I purchased one of these machines of Mr. CHASE, at our Fair, and I am perfectly satisfied with its performance as a "Straw Cutter." But what I want to say particularly, is that it is most admirably adapted to *another* purpose, and that is cutting *Sausage Meat*. I first cut about a hundred weight for myself, and then lent it to my neighbors. They all pronounce it first rate. The meat is as fine as if it had been grated, and perfectly mixed. A hundred pounds may easily be cut in thirty minutes.

It wants no adjusting or fixing in any way, but to elevate the hind end, so that the meat will drop into the dish on the floor. Cut the meat into slices and drop it into the middle, forward of the little board under which the straw passes. The meat will pass round and round the cylinders, working towards each end as it acumulates, until it falls off more perfectly cut than by any other process I ever tried. Please satisfy yourself by the experiment. I think it a very valuable recommendation to the machine.

Truly yours, M. ADAMS.

Adams' Basin, Dec. 1845.

For the Genesee Farmer.

How to Destroy Lice on Cattle.

MR. EDITOR—A number of years since I had a lot of calves that I found were very lousy.—I had previously tried mercurial ointment, washing in tobacco, and other remedies. I had frequently heard it said that bulls were never lousy, and could assign no other reason than that of pawing in the sand, and throwing it over their bodies. I took my wheel-barrow full of sand, and sprinkled it over the entire body of the calves; and about a week after repeated the same. A few days after, I made a thorough search, and could find no lice at all.

My neighbors and myself have tried this remedy several times since the above experiment was made, and find it to answer the purpose.

Euclid, Ohio, 1845. M. LINLEY.

The Exports of Ohio for 1845.

The Cincinnati Chronicle says;—"We have before us the shipments from Cleveland, Ohio, and Cincinnati, for the year 1845, to the last week. As the season is nearly closed, we can give a tolerably accurate view of the exports of 1845, from this great agricultural State.

It must be remembered, that in estimating the exports of a year, commencing the first of January, we do not get precisely one season's production, but only one season's *transportation*. The production belongs to both the last and the present season.

The shipments of the surplus of flour this year will be very nearly as follows, reducing the wheat to its equivalent in flour:

Cleveland,	450,000	barrels.
Cincinnati,	150,000	"
Toledo,	100,000	"
Milan, Sandusky, &c.	150,000	"
Marietta, &c.	40,000	"
Portsmouth, &c.	30,000	"
Total,	930,000	barrels.

The other articles we estimate in money, thus:

Flour, in all 930,000 barrels,	4,000,000
Pork, in all,	3,500,000
Cattle and beef,	500,000
Wool, (2,000,000 lbs.,)	500,000
Cheese, (5,000,000 lbs.,)	300,000
Manufactures,	3,000,000
Total,	$11,800,000

We think these results are under-estimated, and that there are miscellaneous articles enough to make the net surplus in value twelve millions of dollars. The flour product is two millions of dollars less than it would have been had the two last harvests of wheat been good ones."

From the American Agriculturist.

A New Fact.

It is generally believed that the eggs of weevil, deposited in grains of wheat, are hatched out in the same season before winter, or if not hatched out *then*, that they perish and do no injury to the grain. This may be the case with the white weevil, but it is not true of the black. In the fall of 1843, two years ago, I received from Virginia a shot bag filled with *Conner* wheat—an early ripening variety much valued by some farmers in that State. It was a fair, sound, baautiful sample of grain. I had just sown, before its reception, a small quantity of the same variety, and determined to keep this to sow the next year, fearing some accident to the seeded crop. The shot-bag of wheat was carefully put away in a clothes press, so carefully that it did not again come to light till about ten days ago. On opening the bag, a number of black weevil were seen, which had come out. Others were in the act of coming out of the grain; and on cutting open grains which appeared sound, the insect was found in the grain. Do not the eggs of insects remain dormant like seeds of plants, till the proper conjuncture of circumstances for their active existence takes place? This may not be for years, or may happen the same year.

The black weevil also hatched out of grain here *of the present year's harvest*, for one of my neighbors culled from his field a small sack of wheat he thought might be a valuable kind, cleaned it out, and suspended it by a rope in an upper room of a house. When he took it down to sow a few weeks ago, he found great numbers of black weevil hatched out since harvest in his sock of selected wheat. The conclusion at which I arrive is, that no season favorable to the active life of these insects has occurred here in 1843 or 1844; but that this season being favorable, not only those deposited this year, but those also remaining dormant in the grain deposited in previous years, have been excited into active existence.

Great injury has been done in this state by these insects this year, and much of the wheat cleaned out has been destroyed by black weevil; and in cases where it was got out of the straw and *left in the chaff*, it has been injured by the white weevil—a circumstance causing astonishment, as leaving it in the chaff has been thought a sure preventive of injury by them. The wheat *left in the stacks* till this time is generally injured, and in some stacks utterly destroyed by the white weevil. Can any of your correspondents tell us how to avoid these injuries to the grain after it is made?

John Lewis.

Llangollen, Ky., Oct. 18, 1845.

The village of Ravenna, on the Ohio Canal, shipped during the past year, seven hundred and thirty tons of cheese.

Professor Liebig's Opinions on the Potato Disease.—The researches I have undertaken upon the sound and diseased potatoes of the present year have disclosed to me the remarkable fact that they contain in the sap a considerable quantity of vegetable casein (cheese,) precipitable by acids. This constituent I did not observe in my previous researches. It would thus appear that, from the influence of the weather, or, generally speaking, from atmospheric causes, a part of the vegetable albumen which prevails in the potato has become converted into vegetable casein. The great instability of this last substance is well known, hence the facility with which the potato containing it undergoes putrefaction. Any injury to health from the use of these potatoes is out of the question, and nowhere in Germany has such an effect been observed. In the diseased potato no *solamin* can be discovered. It may be of some use to call attention to the fact, that diseased potatoes may easily, and at little expense, be preserved for a length of time, and afrerwards employed in various ways, by cutting them into slices, of about a quarter of an inch thick, and immersing them in water, containing from two to three per cent, of sulphuric acid. After twenty-four or thirty-six hours, the acid liquor may be drawn off, and all remains of it washed away by steeping in successive portions of fresh water. Treated in this manner, the potatoes are easily dried. The pieces are white and of little weight, and can be ground to flour and baked into bread along with the flour of wheat. I think it probable that the diseased potatoes, after being sliced and kept for some time in contact with weak sulphuric acid, so as to be penetrated by the acid, may be preserved in that state in pits. But further experiments are necessary to determine this. It is certain, however, that dilute sulphuric acid stops the progress of putrefaction.

Giessen, Nov. 5.

To kill Moss on Roofs.—A gentleman in Hadley states that the moss which sometimes attaches to the roof on the north side of buildings, causing a premature decay of the shingles, may be completely removed by a little dry white lead sprinkled near the top of the roof just before a rain. The rain washes it down among the moss, and, as he believes, is poisonous to it, as the moss dies and the roof is cleared. He was first led to make the trial of it from observing that while a considerable quantity of the moss grew upon a particular roof, the part opposite the chimney, which had been painted white, was enitrely free from it.—*Amherst Express.*

The "Cow Tree," in South America, produces milk, from which the people obtain regular supplies.

The Nepenthus of India furnishes water in its leaves, which not only have *pitchers*, but *covers* to them.

HORTICULTURAL DEPARTMENT.

BY P. BARRY.

Remarks on the Culture of the Pear, with Figures and Descriptions of Three Fine Varieties.

AN American Author says: "The Pear is undeniably the favorite fruit of modern times and modern cultivators." This is no doubt correct, as far as relates to places where Horticulture has attained a somewhat advanced state—where taste has been cultivated and knowledge acquired on the subject of fruit culture. But, in large portions of our country, it is very far from being the case: even in our region, Western New York, where we claim to have made some advancement, not one out of an hundred of our Agriculturists, who are all fruit growers to a greater or less extent, has scarcely attempted the cultivation of the Pear. This we know to be the case, in many of the gardens in Rochester and immediate vicinity. In some village gardens, and now and again a Farmer's garden throughout the country, we find some of the good old varieties of Pears.

But amongst the mass of those who cultivate our wonderfully fertile soil, the culture of the Pear, either for domestic use or for sale, is utterly neglected. The astonishing improvements which this fruit has undergone within the last half century—the degree of perfection it has attained—the thousand delicious varieties that long years of skilful, patient laborious culture and experiment has produced—combining every desirable quality—ripening at every season, and adapted to the gratification of every taste—appear to be comparatively unknown, or at least shamefully unappreciated. We submit this matter to every cultivator of the soil, who desires to multiply the comforts and enjoyments of his own family—to improve and enrich *his* portion of the earth—to play properly his part in the great work of *universal progress* that has become, in fact, the watchword and spirit of the times.

"But," say our rigid economists, "we have no time to devote to the cultivation of fine fruits. The trees cost so much, and besides, we don't know much about planting or cultivating, and if we buy trees they will die," &c. &c. These are the objections urged by hundreds of the enlightened cultivators of America; men from whom we would not expect such mistaken views of economy—such impotent reasoning.

The experience of every man who has planted a fruit tree—a Pear tree, as we now write of that—and taken proper care of it until it arrives at a bearing state, will go to show it one of the most profitable investments, all things considered, he ever made on his farm. We know single Pear trees in abundance that produce annually, without a shilling's worth of labor, more than the actual profits of three of the best acres of land in the rich valley of the Genesee.

Pears always command instant sale, in all the principal markets of our country.—$5 per bushel is not an uncommon price, and $2 is about the lowest for Pears of even ordinary quality; and yet you cannot spare time to cultivate them, or afford to purchase the trees! But then we don't know *how* to cultivate. We hold it to be unpardonable for any man in these days, and particularly in this country, to plead ignorance of any branch of his own profession at least. Does not your country abound with sources of information? Look at your splendid School District Libraries–your unprecedentedlyc heap periodical publications, teeming with information, scientific and practical, on every point connected with rural industry. See your cheap books offered for sale at your very doors. For the small sum of $1,75 you can purchase Downing's "Fruit and Fruit Trees of America," a work which furnishes all the essential information on Fruit culture in this country—presenting to you the very essence of accumulated experience and improvements of centuries. You have the "GENESEE FARMER" for 50 cents per volume, of 300 large octavo pages. The "CULTIVATOR" for $1 per year; one of its thousand articles alone is worth the money; and numerous other works of equal merit and cheapness that we might mention, affording to every man, old and young, in the land, the means of knowledge—and yet men are not ashamed to plead ignorance! But many are so eager, so impatient for a return from what they invest, that they cannot bear the idea of waiting a few years for a tree to arrive at productiveness. The Pear tree, in particular, is considered as requiring half a lifetime to attain this state, and hence it is out of the question to cultivate it. This opinion has obtained in consequence of the tardiness of seedling or natural trees, and most of the old kinds which alone have been cultivated. We wish to abolish this false and pernicious opinion. A large proportion of the new varieties of Pears will bear about as soon as an Apple. In 1840 and '41, we planted in our grounds upwards of fifty varieties, all of which have already produced fruit. Many have borne the third year after planting. A system of *root pruning*, an account of which we gave in the March number of our last volume, is now practised with perfect success upon tardy bearing sorts—of this we will speak at more length hereafter. Where early productiveness is chiefly desired, trees can be had in the nurseries grafted, or inoculated on Quince stocks, that will bear the second year after planting—almost certainly.

These possess another very desirable quality of making beautiful compact low trees or bushes, branched from top to bottom. The fruit is easily gathered from them and is not liable to be

blown off; besides, many of the finest new kinds are found to be improved in quality when grown in this way. This is the most popular method now practised in France and Belgium, countries where the Pear culture has attained the highest degree of perfection. Large quantities of these trees have been sold from the Mount Hope Nurseries at Rochester, during the past two years, and have borne in many of our city gardens the past season. In the garden of AARON ERICKSON, Esq., which we may say here is one of the most complete in our city, we saw one of these, last autumn, which was the most remarkable object of the kind we remember to have seen. It was a small tree 4½ feet high but thinly branched, of the "Doyenne d'ete," or summer Doyenne, very similar to our Virgalieu, with 42 large, well ripened, beautiful fruits. This tree was planted the year previous, and was only three years old from the bud. We will speak more of this method at some future time, and only mention it now to show the falsity of the idea that it requires half a lifetime to get pears into bearing. No man should entertain it for a moment. We intended to add, at this time, a few practical suggestions on soil, situation, mode of culture, &c., for the pear, but we have already extended our remarks to such a length as to compel us to defer this part to a future occasion. Below we give outline figures with correct descriptions, of three most valuable varieties, which we can recommend to every lover of delicious fruit.

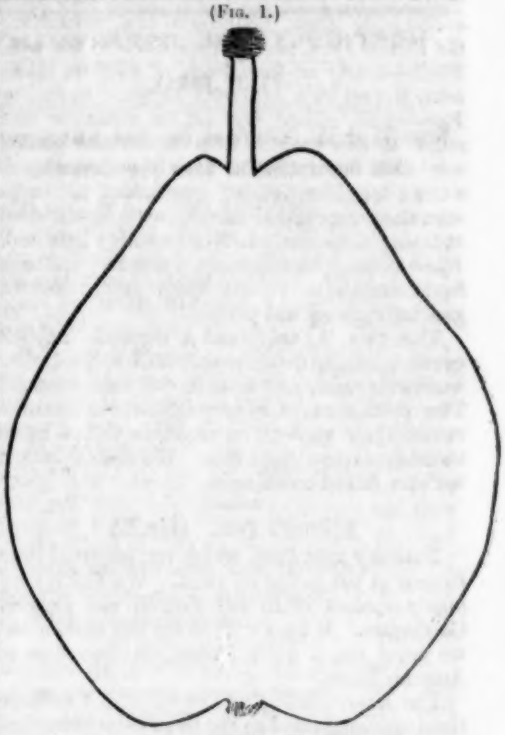
Swan's Orange Pear. (Fig. 1.)

THIS is a magnificient Pear from the garden of JOSEPH SWAN, Esq., of Onondaga, father of L. B SWAN, Esq., of Rochester, from whom we received the specimen, of which the above is an outline. It was introduced in Rochester a few years ago, by Mr. SWAN, as a seedling fruit, and was then named "Swan's Orange," which name we adopt. Since that time it has been cultivated by Mr. H. N. LANGWORTHY, and exhibited by him at our Fruit Shows, as "Swan's Onondaga Seedling." Its large size, productiveness, beauty, and unsurpassed richness of flavor and delicacy of texture, rank it among the very best Autumn Pears we have ever seen—excelling even, in the opinion of competent judges, our famous and invaluable White Doyenne, or Virgalieu. We have strong doubts of its being a seedling, from the fact that the elder Mr. SWAN, the past summer, when at our place, said he was uncertain about it, and that his tree may possibly have been grafted.

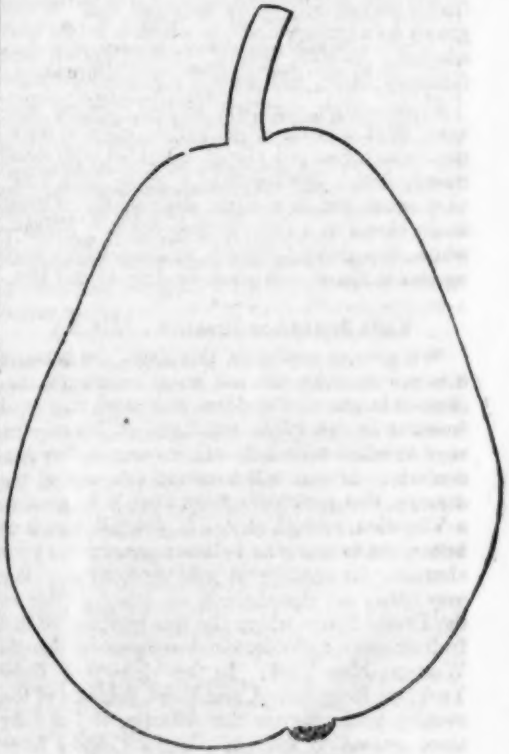
But be that as it may, the fruit is highly valuable, and deserves the most extensive cultivation. The name given here will do very well until we are able to identify it with some known variety —provided it should prove not to be a seedling.

Fruit—large, averaging 3 inches in length, and 2 5-8 in diameter at the thickest part. *Form*

(FIG. 1.)



(FIG. 2.)



—obtuse-pyriform, inclining to oval, resembling the Beurre Diel, but tapering more to the eye. *Stalk*—nearly an inch long, of medium thickness, and set in a moderate cavity. *Calyx, or Eye*—small, closed and set in a regular and rather shallow basin. *Skin* smooth and glossy, very thin, melts with the flesh in the mouth; of a beautiful clear yellow, approaching to orange at maturity, sprinkled thickly with brown dots, and tinged on the sunny side with a light red. *Flesh* white, uncommonly juicy and melting, flavor exquisite. *Core*, quite small; *Seeds*, generally plump and perfect.

The tree is hardy, and a vigorous, upright grower, judging from the specimen on Mr. LANGWORTHY's place, and those in our own nursery. The cultivators of Western New York cannot enrich their gardens or orchards with a more valuable variety than this. We recommend it with the fullest confidence.

William's Pear. (Fig. 2.)

THIS is a new Pear, which we imported from France in the spring of 1844. We find it very highly spoken of in the French and Belgian Catalogues. It bore with us the last season, and we have put it down among the first class of Autumn Pears.

The above outline was taken from a medium sized specimen, and as the trees were transplanted the same season, 1845, in the spring, the fruit is undoubtedly below the usual size. It was grown on a quince stock, to which it seems well adapted. Its size, beauty, productiveness, and delicious flavor, will make it a general favorite.

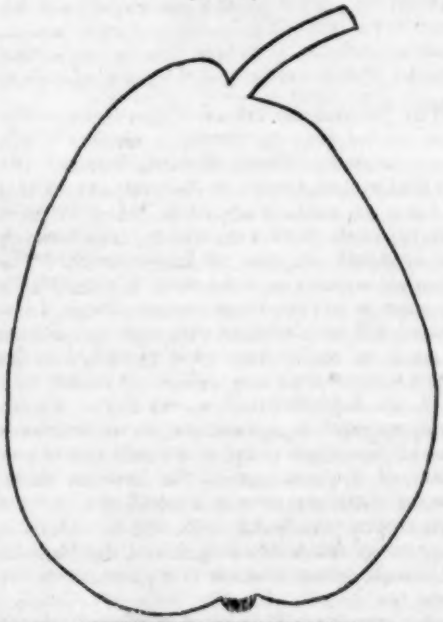
Fruit—large, regularly formed, oblong obovate. *Skin* smooth, bright yellow when at maturity, with a fine red cheek, splinkled with small russety dots. *Stalk*—about ¾ of an inch long, very stout, set in a slight depression. *Calyx*, small, closed in a very shallow basin. *Flesh*—white, fine grained, buttery, melting, with a high agreeable flavor. Ripens, September and Oct.

White Doyenne, or Virgalieu. (Fig. 3.)

WE give an outline of this fruit, not because it is new or unknown, but on the contrary, because it is one of the oldest and most universal favorites in the whole catalogue of Pears—the very standard of excellence, in our region particularly. If you tell a man in this part of the country, that such and such a Pear is as good as a Virgalieu, *enough said*. If you tell him it is better, ten to one if he believes you, except your character for veracity is well established. We may safely say that there is no other portion of the United States where the fine qualities of this fruit attains a more perfect developement than in Western New York. In the vicinity of New York, on Long Island, and large portions of the country bordering on the Atlantic, it has long since ceased to flourish. Various causes have been assigned for this. Mr. DOWNING says that it has arisen from having been propagated from a diseased stock until it has become liable to crack, and that it is only necessary to renew the stock, from a healthy source. This may be so. We can tell our eastern friends that they can get a healthy article here, at any rate. We may add that, with us, as well as in France and Belgium, this variety is proved to succeed equally well as dwarfs or standards—either on Pear or Quince stock. We had a little tree, about 3½ feet high, that produced 21 beautiful perfect fruit the past season. It was on a quince stalk, 3d year from the bud. As a first step in acquiring a knowledge of the Pear, we recommend an acquaintance with this world renowned variety.

Fruit—large, regularly shaped, obovate to oblong-obv. *Skin*, smooth—pale yellow, thickly dotted with brown specks, and generally a red cheek. *Stalk*—¾ to 1 inch long, sometimes much curved, set in a small depression. *Calyx*, small, and very slightly sunk. *Flesh* white, buttery melting, with abundance of rich, high flavored juice. Begins to ripen in September, and is sold in our markets at 3 cents each, through the whole of October and November.

(FIG. 3.)



PRODUCTIVE APPLE-TREE.—The Germantown (Pa.) Telegraph states, that there is an apple-tree near that place, which has repeatedly borne over a hundred bushels of apples at one crop.

THERE are 140 different species of oak in the world—70 of which are found in America and 30 in Europe. The oak will live 600 years.

LILLIES are natives of North America, China, Germany and Liberia.

For the Genesee Farmer.

Protection of Trees from Field Mice.

It has for some time past been a desideratum with farmers, and the lovers of fruit in general, to discover a remedy which shall be effectual in protecting fruit trees from the ravages of the field mouse. The following has been tried for a number of years, and with invariable success:—To one quart tar, add two ounces of Scotch snuff—mix them together well, and apply to the trunks of your trees. The extent of the application should be regulated by the depth of snow to which the trees will be exposed.

Yours truly, G. L. Rose.

Geneva, November, 1845.

Remarks.—We find in Downing's "Fruit and Fruit Trees," and in Ellwanger & Barry's Nursery Catalogue, a recommendation of "*Coal tar* from the Gas Works," to be applied with a brush to the trunk of the trees, about the commencement of winter. Where this cannot be had, Mr. Downing suggests, as an excellent substitute, a mixture of soot and milk of the consistency of paint, brushed over the trunk of the tree on a dry day. The careful orchardist however will not fail to remove long grass, weeds, heaps of rubbish, &c., from around his garden and orchard, as the first and most effectual guard agains, these depredators. Where this is ineffectual. then the other remedies should be applied.—[Ed.

The British American Cultivator.—We have just received the December number of this paper, being the close of the fourth volume. We are glad to find, as well for its own sake as that of the great cause it advocates, that it is about entering on the New Year with increased energy and renewed purposes of improvement. The Proprietors state that "the work is placed upon a sound footing, and the second volume, (new series,) will be conducted with a greater amount of spirit and ability than were embodied in the entire four volumes now before the public."

W. G. Edmundson, Esq., the Editor, is practically engaged in Agriculture, on an entensive farm at Newmarket, and is an enthusiastic promoter of improvement. We have no doubt, judging from the course marked out, that the forthcoming volume for 1846, will be creditable alike to the Editor and Proprietors, and Farmers of Canada, whose interests it is intended to promote.

We hope for the benefit of all their increased efforts will be fully appreciated and sustained.

P. B.

Look to your Fruit Cellars, &c.—Fruit, we understand, is not keeping so well as usual this season; hence it will be necessary to examine frequently that which is stored away, and pick out those that are decayed and that show symptoms of decay. Stored vegetables should also be examined now and again, as some portions will be found in a state of decay, which, if not timely removed, may destroy the whole stock on hand. In dry, temperate days, air should be admitted into these store rooms and cellars.

A Curiosity.—A few years since, we mentioned a curious case which we saw in the orchard of Mr. Isaac Pratt, Prattville, Chelsa. On a Russet apple tree, that had been grafted low in the stock, when small, there was a limb about an inch in diameter, some distance up in the top, that bore Greening apples, both as to appearance and quality. We lately visited the same. Both kinds may be seen at our office.

On another Russet tree, grafted in the same manner, and at the same time, we saw on different limbs sweet apples, which were in form, color and quality, and time of ripening, distinct from the Russets. While they were hard, flat, rough, dark colored, and green, the sweet apples were soft, long, smooth, light colored, and ripe. —*Boston Cultivator.*

FAREWELL TO THE FLOWERS.

BY MRS. L. H. SIGOURNEY.

Go to your peaceful rest,
Friends of a brighter hour,
Jewels on youthful beauty's breast,
Lights of the hall and bower!
Well have you done your part
Fair children of the sky,
We'll keep your memory in our heart
When low in dust ye lie.

Your gladness in our joy,
Your smile beside our way,
Your gentle service round the bed
Of sickness and decay;
Your rainbow on the clouds,
Your sympathy in pain,
We'll keep the memory of your deeds
Until we meet again.

Rest—from the blush of love,—
Rest—from the blight of care,
From the sweet nursing of your buds,
And from the nipping air,
Rest—from the fever thirst
Of summer's noontide heat,
From coiling worm and rifling hand;
That vexed your lone retreat.

If e'er ye thrilled with pride,
When the admirer knelt,
Or on the lowly look'd with scorn,
Which man for man hath felt,
If through your bosom pure
Hath aught like evil flowed.
(Since folly may with angels dwell,)
Rest from that painful load.

But not with grief or fear
Bow down the drooping head:
See—in the chamber of your birth
Your dying couch is spread.
Go, strong in faith, ye flowers,
Strong in your guileless trust,
With the returning birds to rise
Above imprisoning dust.

Hear we a whisper low
From withering leaf and bell?
"Our life hath been a dream of love
In garden or in dell!
Yet wintry sleep we hail,
And till the trump shall swell
That wakes us on the vernal morn,
Sweet friends, a sweet farewell!"

Fruit Stealing.

We would recommend the following extract from the excellent address of DAVID THOMAS, before the Horticultural Society of Aurora, to the attention of parents, teachers, school superintendents, and all who are engaged, less or more, in the education and training of the youth of our country. We know that during the past summer, sons of some of our most respectable citizens were detected stealing fruit, and would have been incarcerated in prison with other criminals, but for respect to the feelings of their parents. One, we learned, had to pay $10 for a pocket-full of Huling's Superb Plums, and was glad to get off at that. The matter is timely and truthfully presented by Mr. THOMAS, as follows:

"It is remarkable that so many of our countrymen scarcely consider it a crime to plunder an orchard or garden. There may be not one man in ten, or even in twenty, who is really a marauder, but a greater number connive at such doings. Are there not parents who have never taught their children, that to rob a neighbors fruit, is stealing? Are there not parents who lift up their voices in prayer, and yet allow their boys to prowl round the neighborhood, when they ought to be at meeting, or at church? If this is so, it is a sorrowful case. But there are folks who would not have it believed for the world, that their sons would break into a desk, corn crib, or hen roost, and yet would utter no reproof for their feloniously destroying what the owner had long watched with interest, and which neither hens, corn, nor money could have bought.

This laxity of morals is a shame to us as a people, and seems almost peculiarly *American*,—for foreigners, unless they enter some school of depravity after landing on our shores, are generally free from this vice. If we enquire into its cause, we should probably find that a maxim—not of *common law* but *rabble law*—has exerted a powerful influence. The maxim is, that "*Every body has a legal right to eat as much fruit as he wants, wherever he can find it;*" and doubtless many of them firmly—not honestly—believe in its force; for no *honest* man or boy can, stealthily take the product of another's land or labor. It is to be regretted indeed that some members of the bar—I do not say gentlemen—in their advocacy of certain culprits, have endeavored to press such notions on the jury; but there is a statute, which they have seen proper to overlook, containing the following words: "Every person who shall willfully commit any trespass by maliciously severing from the freehold any produce thereof, or any thing attached thereto, shall upon conviction, be punished by imprisonment in a county jail, not exceeding six months; or by a fine not exceeding $150; or by both such fine and imprisonment."

In some neighborhoods, societies have been formed, for the detection of such marauders; and have been completely successful in breaking them down, as at Salem in Massachusetts; but though I entirely approve of such combinations, may not something be done in a different way? Can no voice be raised in our schools, against this besetting sin? In Noah Webster's Elementary Spelling Book, he says, "It is no more right to steal apples or watermelons from another's garden or orchard, than it is to steal money from his desk. Besides it is the meanest of all low tricks to creep into a man's enclosure to take his property." Such lessons as this, should be read in schools, at least once a week, and enforced by all the eloquence of the teacher.

That such lessons may prove eminently useful in promoting the cause of virtue, the following extract from an Edinburgh periodical, will clearly exhibit: "When the Spitalfields school was first established, it was found that the children were habitual pilferers. They constantly attended the markets, and levied heavy contributions on the fruit sellers. The master of that school however, succeeded so well in subduing this propensity, that though both flowers and fruit were within their reach, in the open space appropriated for their amusements, they scrupulously abstained from picking a single currant, or plucking a single leaf."

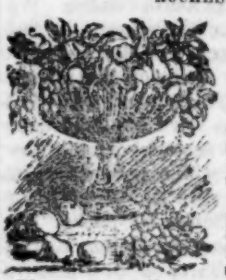
This subject is a very important one. Without blending morality with literature, education is vain. It may paint the sepulchre, but not purify it; and while the state is indifferent on this point, she will have to give the last anish in her prisons, erected at enormous expense."

CHINESE HORTICULTURE.—Fletcher Webster, Esq., in a late lecture in New York, stated the following remarkable fact. Mr. W. having resided in China, is of course, good authority:

"The Chinese have the art of dwarfing trees, and will raise a pear or apple tree, perfect in all its parts, and yet not exceeding *a foot in height*. And what is still more strange, they will produce from these dwarfs at pleasure, fruit either of the usual size, or of a size proportioned to the diminished growth of the tree."

MARBLE CEMENT.—An improved cement is attracting attention among builders. It is formed of plaster of Paris, (Sulphate of Lime) and Alum. Common *boiled* plaster is steeped in a solution of alum, and recalcined, when it is fit for use. This cement is incapable of enduring the weather, and is principally esteemed for the beautiful stucco which it forms, and which, from its great hardness and brilliancy of surface, bears a very near resemblance to marble. It may be colored by simply imparting the desired hue to the water used in mixing it. It is susceptible of a very high polish, and is extensively used for interior decorationss wherever its existence and the knowledge of its composition are known.

MOUNT HOPE BOTANIC GARDEN AND NURSERIES, ROCHESTER, N. Y.



THE subscribers respectfully announce to their friends and the public, that their present stock which they offer for sale the ensuing Fall of 1845 and Spring of 1846, is the finest ever grown in Western N. York, and unsurpassed in quality by any establishment in the country.

The collection of fruits comprises the most esteemed varieties of the Apple, Pear, Peach, Plum, Apricot, Cherry, Nectarine, Almond, Grapes, &c.

The trees are well grown, thrifty, and beautiful, and have been propagated with such care as to ensure correctness.

All are warranted genuine as represented.

PEAR TREES on QUINCE STOCKS for DWARFS and PYRAMIDS, can also be furnished of the finest varieties. These will bear the first or second year after transplanting, and are beautifully adapted to garden culture.

3,000 fine thrifty young trees of the famous New American Apple, the "Northern Spy," are also on hand.

STRAWBERRIES—All the fine new esteemed varieties, including Stoddard's new Alpine.

Also a large and fine collection of Ornamental Trees, Shrubs, Roses, (including a quantity of splendid *Standard or Tree Roses*, 3 to 6 feet high; Herbaceous Plants, Bulbous Roots, Double Dahlias, &c.

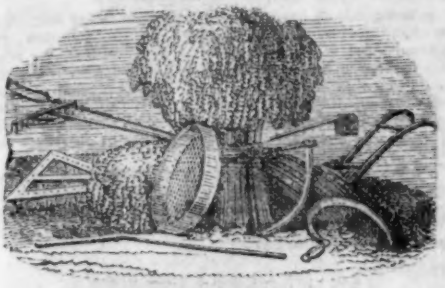
Our new descriptive catalogue will be sent *gratis* to all POST PAID applications.

Trees and Plants will be packed in the best style, and shipped to any port or place that may be designated.

☞ It is for the interest of purchasers that they forward their orders now, without delay, that they may be executed in proper season. Address

ELLWANGER & BARRY.

Rochester, Sept. 1, 1845.



ROCHESTER SEED STORE,
AND
WARE-HOUSE FOR FARMING TOOLS.

DISSOLUTION.—The co-partnership heretofore existing under the firm of B. F. SMITH & Co., is this day dissolved by mutual consent. All accounts will be settled by JAMES P. FOGG, who will continue the SEED and TOOL business, at the old stand on his own account.

B. F. SMITH.
January 1, 1845. JAMES P. FOGG.

The subscriber having purchased the interest of Mr. B. F. Smith, in the SEED and IMPLEMENT business, will continue the business as heretofore at the Rochester Seed Store on Front street, nearly opposite the market.

The subscriber is well aware of the important relation which the seedsman holds to the whole farming community, and that on his honor and veracity the crop and profit of a season in some measure depend. The greatest care has been used in selecting the seeds offered at this establishment for the ensuing year, and they can be relied upon as pure and genuine, carefully selected and raised from the very best varieties, and properly cured. Many kinds were raised in the immediate vicinity of this city, by Mr. C. F. Crosman, and under the inspection of the proprietor; others were raised by experienced seed growers; while those varities of foreign growth, which experience has shown are the best, such as Cabbage, Cauliflowers, Broccoli, all the varieties of Garden and Field Turnip, Scarlet Short-Top Raddish, Scarlet and White Turnip-Raddish, Dwarf and Early Peas, with Twenty choice varieties of FLOWER SEEDS, have been imported by the subscriber from the long established house of R. WRENCH & SONS, of London.

FIELD SEEDS.

RED and WHITE CLOVER, TIMOTHY, BARLEY, Seed-Corn, Italian and Siberian Spring Wheat, Early June Potatoes, Marrowfat and other Field Peas, Rye-Grass, Orchard-Grass, Lucerne, &c. &c.

VEGETABLE GARDEN SEEDS.

A choice and select variety of PEAS, BEANS, CABBAGE, CAULIFLOWER, CELERY, BEETS, CUCUMBERS, MELONS, RADDISH, SQUASH, Herb-seeds, &c.

FLOWER SEEDS.

The collection of Annual and Perennial FLOWER SEEDS, contains many new and choice varieties.

AGRICULTURAL & HORTICULTURAL TOOLS.

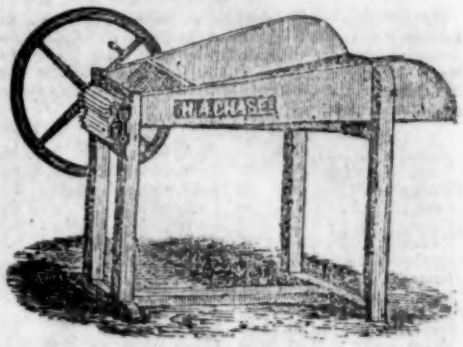
At the Ware-Room, adjoining the Seed Store, may be found an extensive and complete assortment of Agricultural and Horticultural Implements, embracing almost every tool used in the cultivation of the Farm and Garden.

SUPERIOR PLOWS.

The celebrated MASSACHUSETTS PLOWS, of three sizes, several hundred of these Plows, have been sold in Rochester, and vicinity, and have given entire satisfaction. Also, Deleno's Diamond Plow—Sub-Soil and Side-Hill Plows—The Gang-Plows—Two Horse CULTIVATORS, for working summer-fallows, and getting in wheat. Corn Cultivators, Root-Cutters, Corn-Planters, Drill-Barrows, Hoes, Shovels, Scythes and Snaths, Garden-Rakes, Corn-Shellers, STRAW CUTTERS, &c. &c.

Rochester, January 1, 1846. JAMES P. FOGG.

TO FARMERS AND OTHERS.



GENTLEMEN—I am now manufacturing and offering for sale, SANFORD'S PATENT STRAW CUTTER, *in the City of Rochester.*

Said machine was patented two years ago, and has this year for the first time made its appearance among you; and for cheapness, durability, and amount of work, I say it cannot be beat. It took the first premium at the State Fair, and at the Fairs of Onondaga, Wayne and Monroe Counties.

I now ask you to examine it, try it, and then buy it, if you please.

For sale at BLOSSOM'S HOTEL, and AMSDEN & Co's. STOVE STORE, Main Street, Rochester. H. A. CHASE.

Rochester, Nov. 1845.

RECOMMENDATIONS.

I recently witnessed the operation of "*Sanford's Perfect Straw Cutter,*" sold by H. A. CHASE, of the American Temperance House, Syracuse, and most cordially recommended said Machine to all persons wishing to cut straw, hay, or stalks, for food to be given horses or cattle. Simple in its construction, least liable to get out of order by use, and for ease to the operator, and despatch with which the work is done, it cannot be surpassed, if equalled, by any machine constructed for the same purpose that I have ever seen. Its operation is only to be seen to be admired, and the machine and its principle approved.

SQUIRE M. BROWN,
Elbridge, July 21, 1845. Prest. On. Co. Ag. Society.

MR. CHASE'S STRAW CUTTER.—The undersigned, officers of the Wayne County Agricultural Society, would express their commendation of the machine exhibited at our Annual Fair, by Mr. H. A. CHASE, of Syracuse, called "Sanford's Perfect Straw Cutter." We believe it is the best machine of the kind ever invented, and that its superiority and usefulness need only to be known to secure for it general adoption by our farming friends. Simple and substantial in its construction, and efficient in its operation, it performs its work in the highest degree of perfection, and is easily kept in repair. It cuts and mashes the straw, hay or stocks, in a manner termed by English husbandmen *chaffing*. Its low price brings it within the acquisition of every farmer, and we feel that it cannot be too highly recommended to the agricultural portion of our fellow citizens.

C. S. BUTTON, Newark, Pres't.
D. KENYON, J. A. MILLER, } Vice Presidents.
SAMUEL E. HUDSON, T. HEMINWAY, } Ex. Com.
W. P. NOTTINGHAM, Treasurer.

Palmyra, Oct. 2, 1845.

CORTLAND VILLAGE, NOV. 19, 1845—MR. H. A. CHASE.—The Machine arrived safely, a couple of weeks since, and I have subjected it to a most thorough trial. You remember though we gave it the first premium at Utica,* I stated some objections to some of its details. I find I was mistaken. It cuts easier and faster, I think, than any machine with which I am acquainted. It takes one of my men but a few minutes to cut feed for six horses for a day.

Yours respectfully, HENRY. S. RANDALL.

[* Mr. RANDALL was Chairman of the Awarding Committee on this class of Improvements, at the State Fair, Utica.]

MARKET INTELLIGENCE.

ROCHESTER, Dec. 30, 1845.

BELOW we give the prices in our own and some of the Eastern and Western Markets. The Eastern markets are unsettled, and there is but little business doing in Rochester. We have only room for a brief synopsis, this month, but shall give more full reports hereafter—including extracts from foreign papers.

Rochester Produce Market.

Wheat,	1,00	*a* 1,06	Pork, bbl,		10,00
Corn,	33	38	Pork, cwt,	4,00	4,75
Barley,	30	50	Beef, cwt,	2,50	3,00
Oats,	32	35	Lard, lb,	8	10
Flour,	5,25	5,50	Butter, lb,	13	14
Beans,		88	Cheese, lb,	6	7
Apples,	25	50	Eggs, doz,	12	13
Potatoes,		31	Poultry,	5	6
Clover Seed,	6,00	6,50	Tallow,	6	7
Timothy,	1,30	2,00	Wool,		
Hay, ton,	12,00	13,00	Sheep Skins,	63	75
Wood, cord,	2,00	3,00	Green Hides, lb	3	7
Salt, bbl,		1,13	Dry "	6	7
Hams, lb,	5	6	Calf Skins,	5	6

NEW YORK, Dec. 26.

Flour and Meal.—The market is very firm to-day at $5,56¼ *a* 5,62½, with a fair demand for home use and the East, and a good inquiry for shipment at 5,50. The sales are 2000 to 3000 bbls. Genesee for the East at 5,62½ and 1000 to 1500 do. for export at 5,56¼. The report of sales at 6,56¼ in our second edition of yesterday was, of course, a typographical error. Large engagements of freight for Liverpool were made at 3s. sterling. We note sales of 500 bbls. round hoop Ohio at 4,50. Western Ship Stuffs 17 *a* 18c. per bush.

Provisions.—Pork remains very dull, and the transactions are limited. The market is nominally at $10,37½ *a* 10,50 for Prime, and 13,12½ *a* 13,25 for Mess, Dutches Co. Mess 13,50. In Beef we hear of 100 bbls country mess at 7,75, and 200 tcs. prime mess for England at 14. We quote beef 7,75 *a* 8,50 and 5 *a* 5,50 for country and city. Cheese is 7 *a* 7¼c., and not active. Western dairy butter 14 *a* 18c., and in fair demand; Ohio 11¼ *a* 12½c. The stock is good both for butter and cheese.

Wool.—The market is quiet for all kinds of Wool. Nothing doing of importance from first hands. Manufacturers take from the trade only for immediate use. Holders of foreign, are firm at former prices. Cordova has advanced. Nothing doing in fleece for shipping.

Amer. Saxony, fleece	38	*a* 40	Superfine pulled,	29	*a* 31
Amer. full bl'd merino	36	38	No. 1, pulled,	26	27
Amer. ¾ ⅞ do merino	30	34	No. 2, pulled,	20	21
Amer. native & ¼ me'o	28	30			

BUFFALO, Dec. 30, 1845.

We hear of no change in the state of the market. Dulness is its prevailing feature, and a general indisposition on all sides to operate. Holders of flour are holding on at $5, while it sells at 5,50 a 5,62 1-2 in New York; and buyers are holding off at 4,50, and are not inclined to go above that figure. There is therefore nothing doing, except in small parcels for the city trade.—*Pilot.*

CHICAGO, Dec. 17.

Wheat taken in yesterday, 4,701 bush. at 86 *a* 88c., a very few samples bringing 90c. This morning we quote prices at from 86 to 88c., the latter price, however, being only paid for best samples.

Annual Meeting of the N. Y. State Ag. Society.

THE Annual Meeting of the New York State Agricultural Society, will commence its Session in the City of Albany, on the third Wednesday (21st) of January, and continue two days.

The meetings for business will be held at the State Geological Rooms, commencing at 10 o'clock, A. M. on Wednesday.

A Public Meeting will be held at the Assembly Chamber of the Capitol on Wednesday Evening, where there will be a Public Discussion of subjects interesting to Agriculturists. And on Thursday evening the Annual Address will be delivered by the President of the Society.

Farmers and the Public generally are invited to be present.

L. TUCKER, *Rec. Secretary.*

To Subscribers and Others.

IN order that its friends and former subscribers may have an opportunity of judging relative to the contents, size, appearance, &c. of the issues of our new volume, we send this number of the FARMER to all subscribers for 1845, and many others who are friendly to the publication. Those who receive the number are requested to peruse and examine—and if they consider it worthy of support, forward their own subscriptions, and as many of their neighbors and friends as convenient.

Former subscribers, who do not wish to continue the paper—we hope, by the way, that these will prove to be "few and far between"—are requested to return it promptly, (with the *name* of person, and *post office* where sent,) directed to "Genesee Farmer."

THE GENESEE FARMER.

VOLUME VII, FOR 1846.

THE undersigned, having purchased the Subscription list of this valuable and popular Journal, would announce to its Patrons and the Agricultural Public, that such arrangements have been made for its future publication as will render it still more deserving the patronage of all friends of Improvement.

Each Number of the next Volume, (commencing in January, 1846, *instead of* SIXTEEN, *will contain* TWENTY-FOUR LARGE OCTAVO PAGES,—*will be printed on* NEW TYPE, *and* GOOD PAPER,—*and embellished with appropriate* ENGRAVINGS. The paper will make a handsome volume of about *three hundred pages,* suitable for binding at the expiration of the year. No reasonable expense or effort will be spared, but every proper exertion used to make it acceptable to the Farming community, by rendering it at once the *cheapest* and *best* paper of its *size* and *kind* in the Union.

ITS EDITORIAL DEPARTMENT will continue under the supervision of DR. DANIEL LEE, its present talented and popular Editor. Its HORTICULTURAL DEPARTMENT will be conducted by P. BARRY, Esq, an experienced and practical Horticulturist.

TERMS, same as heretofore—FIFTY CENTS A YEAR, *in advance;* 5 copies for $2; 8 copies for $3.

Now is the time to subscribe! and those who wish to do so, are requested to send in their orders as soon as convenient. Persons ordering the paper will please write plainly the name of the Post Office, County and State to which it is to be sent—and also state whether they have the January number. Post Masters, and other friends of Agricultural Journals, are requested to obtain and forward subscriptions for the Farmer. Post Masters may enclose money at our risk. Address

D. D. T. MOORE,
December, 1845. Rochester, N. Y.

☞ Editors will greatly oblige us by copying the above Prospectus; and to those who do so, we will send one or more copies of the Farmer, without an exchange.

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